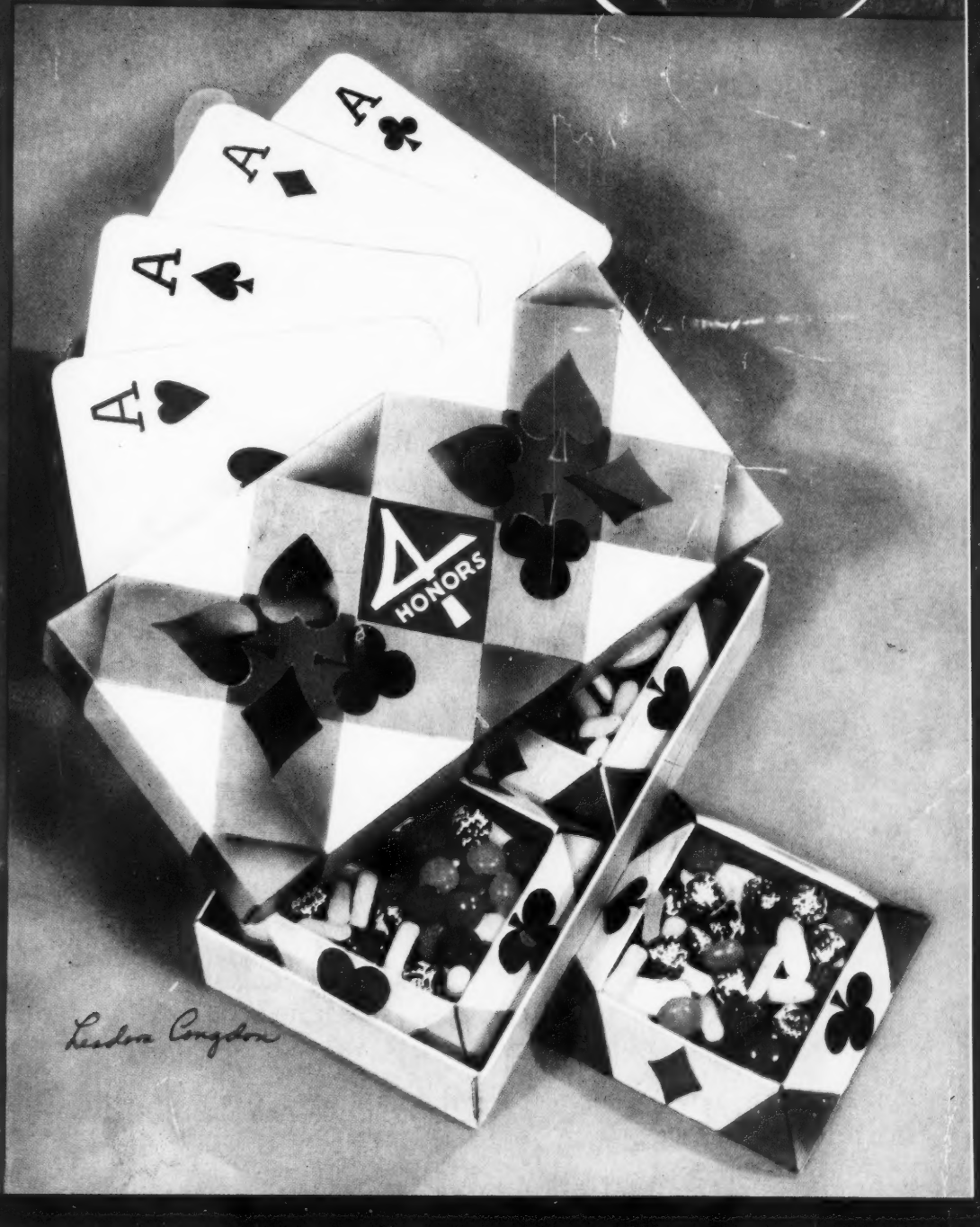
Modern packaging



For cover story see p. 98

November 1948

NEW!

National's "Successful Bottle Labeling" handbook — *which gives full details of modern labeling practices* — has been approved by leading manufacturers of labeling machines, labels and containers.

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TECHNOLOGY DEPARTMENT

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COURTESY is a friendly blend of thoughtfulness and tact. It is consideration measured by the golden rule; the happy habit of thinking in the second person. Courtesy is important in the background of individuals and organizations. It costs little, means much, helps to win customers and friends, and has yet to lose one. ★ Phoenix Metal Cap Co., Chicago 8 and Brooklyn 18.

Modern packaging

Vol. 22 . No. 3 . November 1948

GENERAL

TECHNICAL

DEPARTMENTS

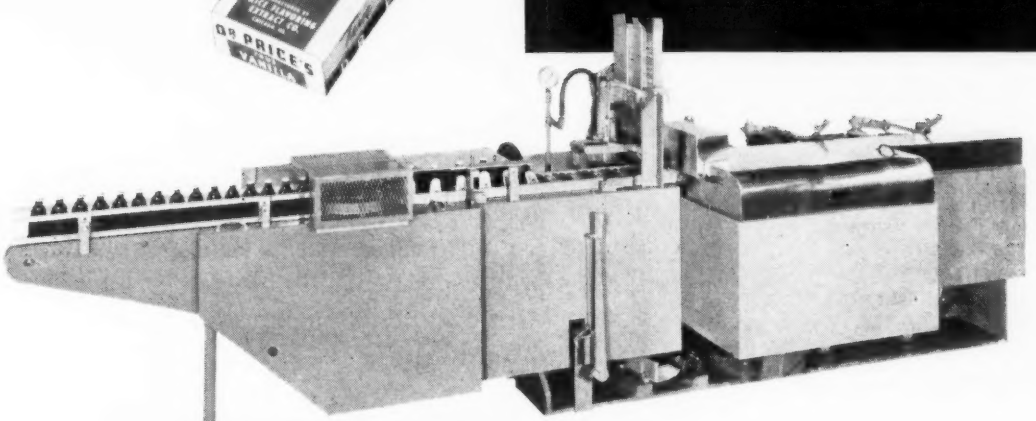
½ OUNCE... 1½ OUNCE... 3 OUNCE BOTTLES OF

Dr. Price's

TRUE VANILLA EXTRACT

CARTONED QUICKLY AND ECONOMICALLY ON

one REDINGTON



Price Flavoring Extract Co., Chicago, ninety-five year old manufacturers of the very well-known line of Dr. Price quality extracts and food colors, have made good use of REDINGTON packaging skill since 1924.

It was twenty-four years ago that this famous firm purchased its first REDINGTON for the cartoning of Dr. Price Vanilla Extract. This first machine provided satisfactory service through all these years. Only recently was it replaced with a newer, modern, high speed REDINGTON Cartoner to work in conjunction with the latest, advanced equipment used by the Dr. Price organization today for filling, capping, and labeling.

The new REDINGTON TYPE 23 (illustrated) is built with the instant-adjustability features of all REDINGTON models. By simply moving numbered parts to proper marking, the machine adjusts to any of the three Dr. Price sizes . . . from $^1/_2$ ounce to $1^1/_2$ ounce, to 3 ounce. Moreover, it is so arranged that it can also be readily adjusted for any other size within the minimum ($^1/_2$ ounce) and the maximum (3 ounce). For example: 1 ounce and 2 ounce.

More reasons why REDINGTON cartoners continue in popularity with so many leading package-goods manufacturers: Outstanding features such as . . . continuous loading mechanism . . . skip cartoning . . . turned and ground shafting . . . self-aligning roller bearing . . . varispeed control . . . twin disc clutch . . . safety throw-out . . . and, of course, instant adjustability to accommodate different sizes. They add up to speedy, trouble-free, economical cartoning production.

REDINGTON experts are prepared to offer you the same superior service—engineered to *your needs*. You've only to call upon them.

F. B. REDINGTON CO. (Est. 1897) 110-112 S. SANGAMON ST. CHICAGO 7, ILL.

1897 REDINGTON 1948

51 Years of Packaging Leadership

AUTOMATIC CARTONING • WRAPPING • SPECIAL PACKAGING

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THE PACKAGE CAN BE *TOO* GOOD

SOMETIMES A PACKAGE is called on to perform services that cannot and should not reasonably be expected of it.

A leading package consultant recently called our attention to one instance of a request for a food package that would insure a three-year shelf life.

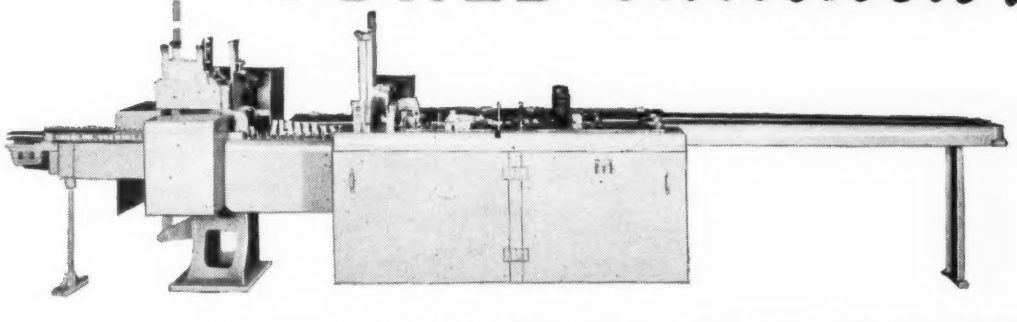
Every packaging man can cite similar instances and most packaging men could accomplish the miracle, given an unlimited cost margin with which to work. But this gives rise to the pertinent questions: Would such a package be in line with principles of sound economy? Should a package ever be burdened with such responsibilities?

No doubt—just for example—some expert *could* devise a self-refrigerating package for fresh produce. But such a package would undoubtedly cost many times the value of the contents and would be ridiculously unfeasible. Obviously, it is better to have refrigerated display cases in the retail store, the cost of which can be amortized in a few years at a fraction of a cent per package handled—and use an ordinary, low-cost package.

We're all happy to see the current emphasis on the protective aspect of the package. But let's not be so intrigued with the possibilities that we carry it to uneconomical extremes. Any food manufacturer who expects a product to remain on the shelf for three years needs a new sales department—not a new package. Packaging has demonstrated that it can do Herculean jobs—but it just isn't smart to ask it to carry the costly burden of deficiencies in other departments.

The Editors

JONES *Cartoned!*



One of several Jones Constant Motion Cartoners in operation at Eli Lilly and Company. The machine feeds and folds a leaflet; feeds and opens carton; prints control number and expiration date on carton; inserts leaflet and penicillin vial; and glues both ends of carton. Speed of 140 or more per minute.

Few industries achieve the high standards of quality rigidly maintained by pharmaceutical manufacturers. Careful laboratory control is supplemented by the closest attention to every detail, from the selection of raw materials, through processing, to the final operation of cartoning.

Eli Lilly and Company enjoys a world-wide reputation for purity, quality and appearance of product. Jones Cartoners play an important part in maintaining product appearance, speeding production, and reducing costs. Can Jones help YOU achieve these goals?

Remember,

ONLY THE *Finest* CARTONER CAN

GIVE YOU THE *Lowest* CARTONING COST!

R. A. JONES & COMPANY, INC.

P. O. Box 485 CINCINNATI, OHIO

THE MAJORITY OF AMERICA'S CARTONED PRODUCTS ARE JONES CARTONED

"That's what I call HOME MADE flavor"—

You're right Grandma, Pickadilly Farm Preserved Sweet Pickle Slices do have a flavor that's hard to beat. Everybody likes them, because they go so well with dinner or with odd-time snacks.*

No one need ever hesitate about keeping a supply of these pickles on hand, because they are *dependably* sealed with Crown Screw Caps. Crown Screw Caps have the famous Deep Hook Thread that grips under the glass threads of the container and gives extra sealing pressure with a positive "down-pull" action. Crown liners contribute their share to better sealing, too. They're made of materials that have been scientifically selected for their sealing efficiency on specific products.

Packers who use metal closures on their products will find it well worth their while to consider the advantages that Crown Closures have to offer. Crown Cork & Seal Co., Baltimore 3, Md. *World's Largest Makers of Metal Closures.*

* A product of Continental Foods, Inc., Colmar, Pa.

At the Canners' Convention in Atlantic City, Crown will be at Booth F-23, Convention Hall, January 16-21.

Approved by Millions of Housewives

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Together - never to part

. . . and demonstrating several of the advantages of Geon polyvinyl resins

HERE'S a collar-liner, different from any ever made before. It promises you a *really* non-wilt collar —non-wilt not only when the shirt is new but till the shirt is worn out. The liner is made of sheeting produced from Geon polyvinyl resins in a special formulation . . . and it literally fuses with the cloth to make the collar. Textile and lining actually become one . . . and every washing and every ironing tends to make the fusion even more lasting.

So now another product reaches the market, benefits the consumer and cuts manufacturing cost, thanks to the versatility of Geon polyvinyl resins. Geon has been performing service like this in so many fields: it has made upholstery resistant to grease, wear and weather . . . has added to the beauty and wear of women's handbags . . . made the bell-cords on buses stronger . . . beautified kitchens and made curtains and tablecloths easier to keep clean. Perhaps you, like this collar manufacturer, will get new ideas from knowing Geon's many *combinable* characteristics.

Geon polyvinyl resins can be worked in almost every way, too. They can be molded, cast into sheets, extruded or used in calendering or impregnating. The color range is almost limitless. We make no finished products from Geon, but we are glad to supply information and to give help on any special problem. Write to B. F. Goodrich Chemical Co., Dept. S-6, Rose Bldg., Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Press-Fuse collar lining by J. P. Frank & Company, Inc., New York, N. Y.

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COUNT ON PACKAGES BY MILPRINT

LEADING FOOD PACKERS know the vital importance of package eye-appeal to food sales. Competitive products are on display side by side . . . and the choice is purely up to the consumer. That's why many famous food packers choose Milprint to provide the extra eye-appeal necessary to get immediate attention and whet the appetite. They know, too, the vast creative and technical service available to them . . . and the sales-success that follows so many Packages by Milprint. Why not call in Milprint yourself for a packaging consultation?

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West Carrollton GENUINE VEGETABLE Parchment

West Carrollton Genuine Vegetable Parchment is ODORLESS, TASTELESS, and INSOLUBLE as well as GREASE RESISTANT. It is the ideal wrapper for butter, shortening, ice cream, cheese, oleomargarine, poultry, meat, fish and all other moist foods. You can get West Carrollton Genuine Vegetable Parchment, printed in one or more attractive colors (special inks) *right* to your specifications. Complete facilities in our own plant.

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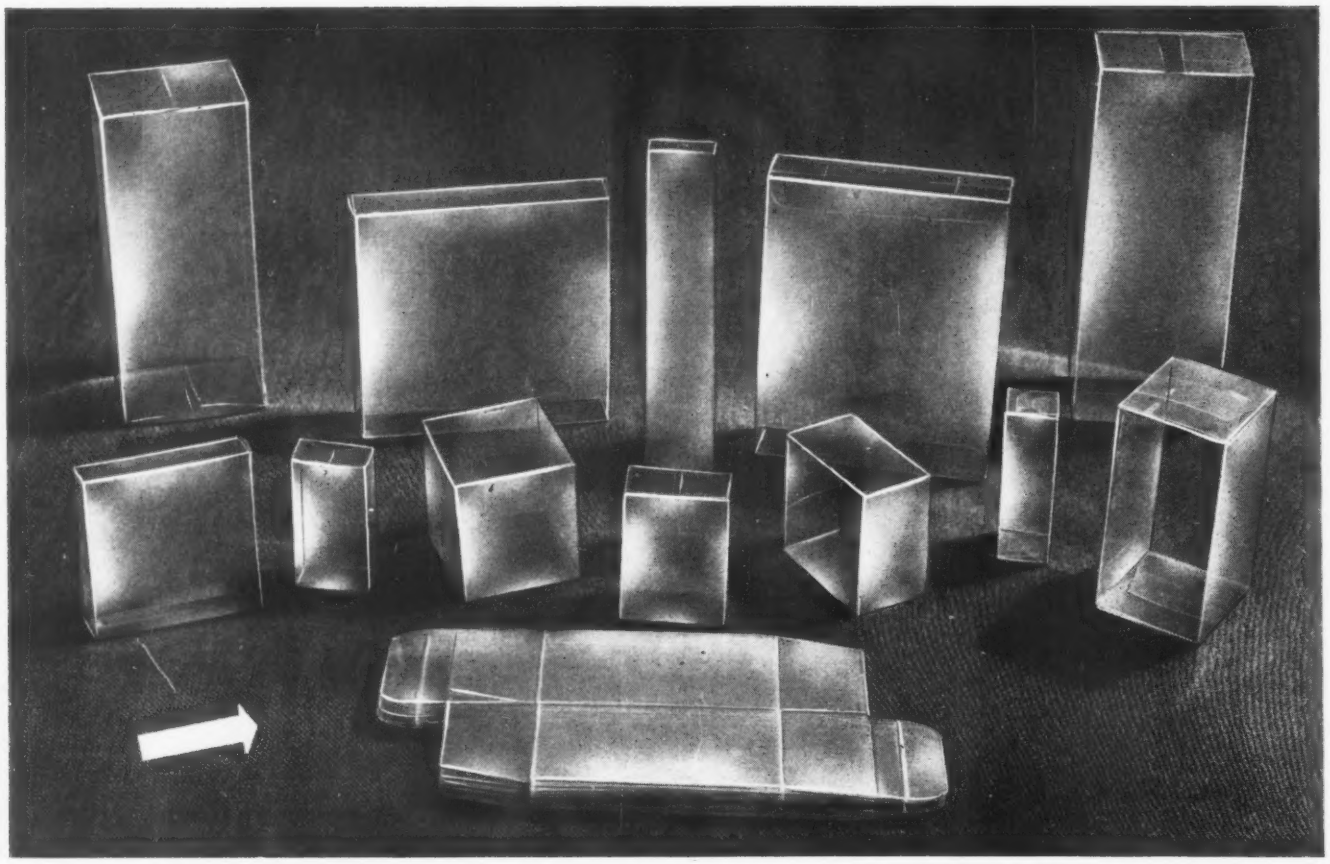

The Big Little Difference

that makes Plastafol* Cartons unlike *any* others you can buy *anywhere*

● Why do Plastafol Cartons *cost less* in small sizes than any other rigid plastic cartons?

Why do they ship and store in less space, at less cost, than any other comparable cartons?

Why can you do packaging jobs with them that *can't* be done with any other cartons?

Simply because Plastafol Cartons are the ONLY plastic cartons that FOLD FLAT . . . that bend without cracking.

This means they can be mass produced by *us* for a price that will appeal to *you*. It means they come to you conveniently packed, 50 or so to the vertical inch . . . each one a single strong piece of window-clear, top-grade plastic, ready to be set up in seconds. Check up on Plastafol Cartons today!

*Trademark. The Plastafol carton is protected by present and pending patents.

✓ Not acetate, Plastafol Cartons are made from a superior, specially developed plastic with *foldable*, non-cracking qualities.

✓ Proved in use, Plastafol Cartons are already used in packaging everything from cosmetics to photographic supplies.

✓ Variety of designs. Ends may be tucked, glued—or locked for extra package security. Available in large runs.

Write or phone for information, technical help, ideas and prices!

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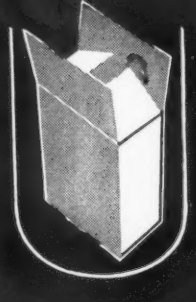
Paoli, Pennsylvania. Phone Paoli 1846

do your CARTONS win customers

More people buy your brand if they *like your carton* . . . if it is easy and convenient to open, to use, to store . . . if it keeps your product fresh, clean, sanitary, undamaged. United can help you develop a carton that delights consumers . . . and wins applause from jobbers and retailers, too. Our packaging experts will gladly show you how United cartons can win you more contented customers. Write us today. There's no obligation.



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BEHIND MR. CELLOPHANE are years of packaging experience. This store of knowledge is at your disposal to help you make best use of the unique visual and protective advantages of Sylvania Cellophane. Talk over your problems with us. You'll find us most cooperative.

Printed cellophane overwrap teams with candy orange slices in a potent selling combination. This technique gives maximum display value to the products . . . assures longer lasting freshness.

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SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 350 Fifth Avenue, New York 1, N.Y. *Plant:* Fredericksburg, Va.

SYLVANIA CELLOPHANE®

Sample Candy Bar Wrap of Reynolds Aluminum Reyseal

Now . . . the Unequalled Protection and Eye-Appeal of Aluminum plus a Self-Sealing Inner Surface . . .

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Reyseal is Reynolds Aluminum Foil laminated to paper that carries its own sealing agent. It heat-seals firmly without added adhesive. Yet it costs no more than other laminated aluminum foil. Reyseal provides maximum protection against moisture gain or loss, light, odors, oxygenation, contamination, or the escape of volatile flavor ingredients. Most important, its brilliant aluminum surface can be rotogravured or letter-pressed in striking color effects that command attention on crowded "impulse purchase" counters. Let us show you how Reynolds Reyseal can keep your product better and sell it better, too.

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Among chewing gum makers, and in many other fields, you will find that most of the sales leaders are regular Riegel customers. They buy from us simply because they know we can make packaging and industrial papers that combine technical excellence with economy and production efficiency. Their confidence in Riegel is an important reason why your company—whether large or small—should see if we can also help you. Write to Riegel Paper Corporation, 342 Madison Avenue, New York 17, N. Y.

Riegel Papers **We produce over 600 different packaging, printing, converting and industrial papers. If we don't have what you want, we can probably make it.**

actual size

The new **PICK-ETS** *are absolutely uniform, perfect spheres, each having exact maximum melting speed. Easier, cleaner to handle, available in* **GREEN** *for cold cans,* **RED** *for hot cans—*AMBER *for normal cans—fit the color to the temperature!*

Announcing

THE NEW | IMPROVED PICK-ETS®

FINDLEY'S EXCLUSIVE HOT PICK-UP CEMENT

Yes! PICK-ETS have been given new efficiency, new uniformity and economy. Because they are completely new in formula as well as in shape, PICK-ETS melt faster than ever, and remain tacky for longer periods of time. Pick-up is smoother, faster and more positive whether on tin, glass or fibre. PICK-ETS come ready to use and so easy to handle — just take out a handful, like marbles — or scoop out a canful . . . no chips or chunks, no waste powder.

Why not get the complete story on this faster, better performing adhesive — the newest, most streamlined advancement in the field of canning adhesives. Write for details and samples today. **Patent Pending**

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SALES OFFICES
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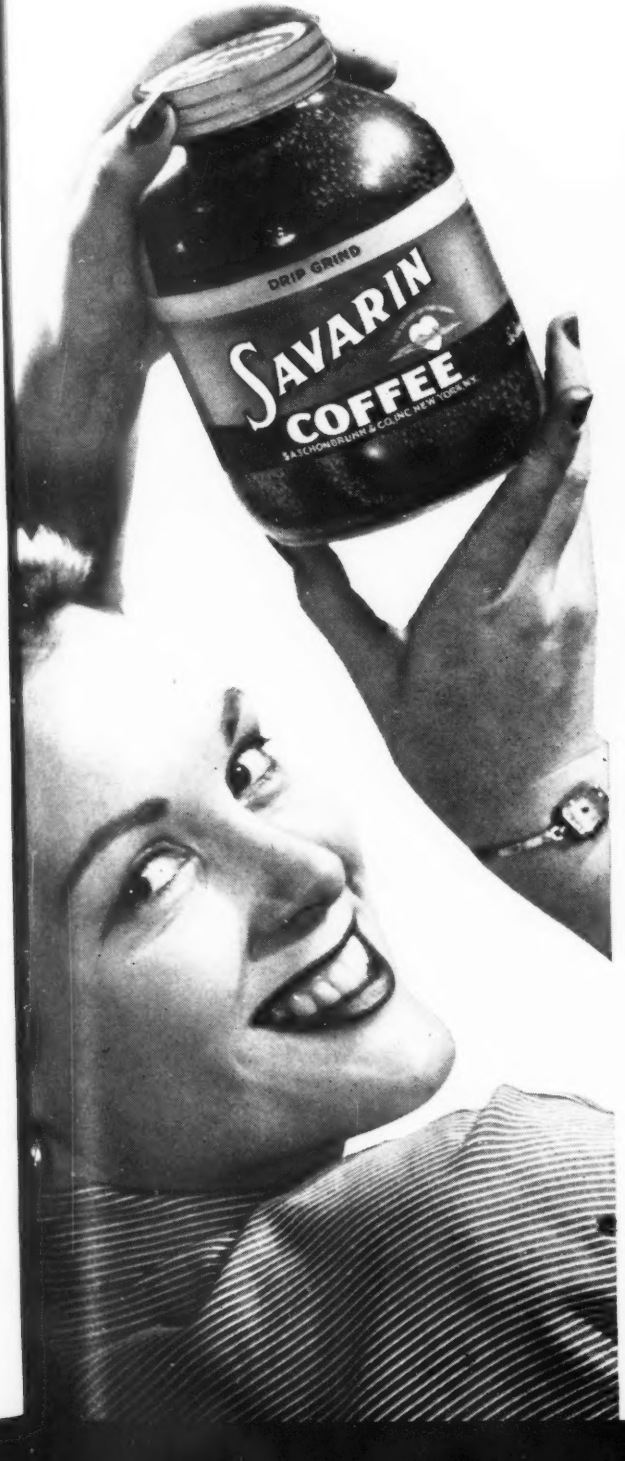
DISTRIBUTORS IN 48 KEY CITIES, COAST TO COAST

When it comes to glass-packed COFFEE—

64% of Shoppers Prefer It Sealed with "CEL-O-SEAL"*

REG. U. S. PAT. OFF.



"Sanitary!" More than any other feature, the sanitary protection of "Cel-O-Seal" was appreciated by housewives in a recent nationwide survey. Evidence of the shoppers' concern about sanitation—reason for you to seal with "Cel-O-Seal"!

"Insures Freshness!" Next highest on the list of reasons given by housewives who preferred "Cel-O-Seal" on the glass-packed coffee they buy. By providing this added protection you seal customer goodwill!

"Helps make product tamper-proof!" Another advantage that ranks high with shoppers. "Cel-O-Seal" gives assurance that contents are uncontaminated by sampling or sniffing. Always insure genuineness with "Cel-O-Seal"!

"Helps make product air-tight!" Primary closures stay put when secured with "Cel-O-Seal." It's another plus for "Cel-O-Seal" that scores high with quality-conscious housewives!

SEE HOW "CEL-O-SEAL" CAN HELP YOU SEAL MORE SALES

Add the many merchandising and protective advantages of Du Pont "Cel-O-Seal" to your packaging plans. They'll give you a harder-selling package.

"Cel-O-Seal" cellulose bands come in a variety of colors and color combinations. Can be indelibly printed with your name or sales message.

Have a look at your product sealed with "Cel-O-Seal." Just send us a sample of your package. We'll return it promptly—sealed to sell with "Cel-O-Seal"—together with a copy of the complete survey report. E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Division, Wilmington 98, Delaware.

* *According to recent nationwide survey among housewives scientifically selected to represent a sound economic cross-section of American consumers.*

DU PONT "CEL-O-SEAL" BANDS

DU PONT

BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

How to hit the mark with one shot!

Meet the one-shot wonder of the Sun Tube family. Name's *Unitainer*. It's Sun Tube's "mighty midget" tube for one-shot, one-time use.

If you're sending out samples...or packing your product in individual servings or doses...you'll find Unitainers give you important advantages (described below). Plus the proven superiorities that are built into *all* Sun Tubes. Well worth investigating!

For further information about Sun Tubes—Unitainers, or standard size tubes of lead and tin or aluminum—phone or write our home office or nearest representative. Remember, Sun Tubes cost no more than other quality tubes!

For one-shot use!

For individual servings or doses (like Bromo Seltzer). For physician's or consumer's samples (like Sal Hepatica, Mistol). For protection against refilling or substitution (like Vitalis).

Seals-in your product!

Protects it against deterioration from air or moisture.

Better than glass!

No breakage. More compact. Lightproof. Cannot be refilled. Convenient break-off pin (for liquids).

For powders, liquids, creams!

Suitable for all kinds of products. Present uses range from drugs and toiletries to powdered foods and paint pigments.

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if it's for Borden's it's got to be good

"Got to be good, if they're for Borden!" exclaims Elsie ecstatically, describing the new rigid plastic containers adopted for packaging Borden's famous Gruyere and Cheddar cheeses. Both containers—odorless, non-toxic, dimensionally stable, shatterproof—are products of Tri-State's exclusive injection molding techniques.

In considering your packaging problems, be guided by the example of Borden and consult us. Tri-State Rigid Plastic Boxes, made in one piece are available in crystal-clear, translucent and opaque forms, and in all the colors of the spectrum. They afford the ideal packaging medium for a multitude of items...and, when empty, make handy boxes for the household.

We are equipped to produce to your specifications, or in a wide range of stock sizes and shapes. Our molding process, eliminating the high costs of fabrication, plus our extensive design and production experience, will help you to achieve your exact requirements at lowest cost.

NOTICE: We are the sole inventors and originators. Patents have been applied for on all these designs and infringers will be prosecuted.

Molded from crystal-clear, pure polystyrene, for Borden's Gruyere Cheese—Excellent visibility in showcase—Complete protection against moisture, acids, dust and handling. "Dual display" shows Borden label through one side and the foil-wrapped cheese portions through other. Cost of packaging reduced—gum labels, sealing tape, etc. eliminated! Re-usable—a useful accessory in the household.

Translucent and warm orange-yellow in color. Friction top "locks" with a twist, removes easily. Ideal container for cheese and other foodstuffs. Borden machine-fills this container directly with 1-lb. of Cheddar Cheese—making packaging fast and economical. Complete protection against all harmful agents normally encountered. When empty, suitable for a number of household purposes, including service in the refrigerator.

The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING COMPANY

HENDERSON, KENTUCKY

New York Offices: 12 E. 41st Street—Murray Hill 3-6572

Vote this ticket for EFFECTIVE PACKAGING!

Alert merchandisers are stressing the importance of effective packaging in today's self-service, impulse-buying era. Most of them agree on a three-point platform:

Transparency . . . for making your product its own salesman. The crystal-clear transparency of Du Pont Cellophane satisfies value-conscious shoppers . . . spurs impulse sales.

Protection . . . fitted to a product's needs. The more than 50 varieties of Du Pont transparent film are chemically tailored to meet a wide range of packaging requirements.

Low Cost . . . for effective packaging cost-wise. Du Pont Cellophane gives you transparent protection at *lowest cost*. It operates with high efficiency on automatic packaging machinery. That's why from any angle it means true packaging economy!

Our field representatives and the converters of Cellophane will be glad to assist you in making your package effective. Write E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Delaware.

Du Pont Cellophane

Shows what it Protects . . . Protects what it Shows . . . at Low Cost

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

For Consumer Size

ECONOMIZE WITH

Bemis Deltaseal Bags

THE SMART-LOOKING PACKAGE WITH SALES APPEAL

Deltaseal: Reg. U.S. Pat. Off.

Many products such as sugar, flour, rice, salt, beans, corn meal and cereals are packed in Deltaseal Bags with savings in packaging costs that will amaze you.

Your brand will be rich and colorful on the excellent printing surface of Deltaseal Bags.

Deltaseal Bags and the Deltaseal Packaging System permit major operating economies in your plant. Your Bemis representative will give you all the details.

Deltaseal Bags have the handy pouring spout and are available in sizes from 2 lbs. to 25 lbs.

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Du Pont Cellophane

Shows what it Protects . . . Protects what it Shows . . . at Low Cost

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

For Consumer Size

ECONOMIZE WITH

Bemis Deltaseal Bags

THE SMART-LOOKING PACKAGE WITH SALES APPEAL

Deltaseal: Reg. U.S. Pat. Off.

Many products such as sugar, flour, rice, salt, beans, corn meal and cereals are packed in Deltaseal Bags with savings in packaging costs that will amaze you.

Your brand will be rich and colorful on the excellent printing surface of Deltaseal Bags.

Deltaseal Bags and the Deltaseal Packaging System permit major operating economies in your plant. Your Bemis representative will give you all the details.

Deltaseal Bags have the handy pouring spout and are available in sizes from 2 lbs. to 25 lbs.

BEMIS

BEMIS BRO. BAG COMPANY

BEMIS BRO. BAG CO.

Baltimore • Boise • Boston • Brooklyn • Buffalo • Chicago
Charlotte • Cleveland • Denver • Detroit • East Pepperell
Houston • Indianapolis • Jacksonville, Fla. • Kansas City
Louisville • Los Angeles • Memphis • Minneapolis
Mobile • New Orleans • New York City • Oklahoma City
Norfolk • Omaha • Orlando • Peoria • Phoenix • Salina
Pittsburgh • St. Louis • Seattle • St. Helens, Ore. • Wichita
Salt Lake City • San Francisco • Wilmington, Calif.

A letter from the largest bag manufacturer in the U.S.A!

Dear Mr. Heinrich:

.....our new large vulcanizer is coming up to all expectations. It is in constant use nine hours a day, and the accuracy of our plates is a testimonial to the high standard you have always maintained. We have one press now which has not been down one working hour in 11 years and another which has been in constant operation for 8 years, nine hours a day, and has never been down either. . . . . We have been in many plate making plants similar to our own, but we have never seen a vulcanizing department better equipped.....

Yours very truly,

Here, in the words of a valued customer, is what *you* can expect from the HEINRICH PRECISION HYDRAULIC VULCANIZER. *It is designed for one purpose alone. . . . . FOR MAKING RUBBER AND PLASTIC PRINTING PLATES.* It is built and engineered to meet your most exacting demands with ***maximum economy in a minimum of space.***

FIND OUT, TOO

about the HEINRICH Rotogravure Press . . . the famous HEINRICH Opti-chek . . . the HEINRICH Bag Machine . . . and the HEINRICH Cutter and Creaser. The new HEINRICH Tandem Aniline Press.

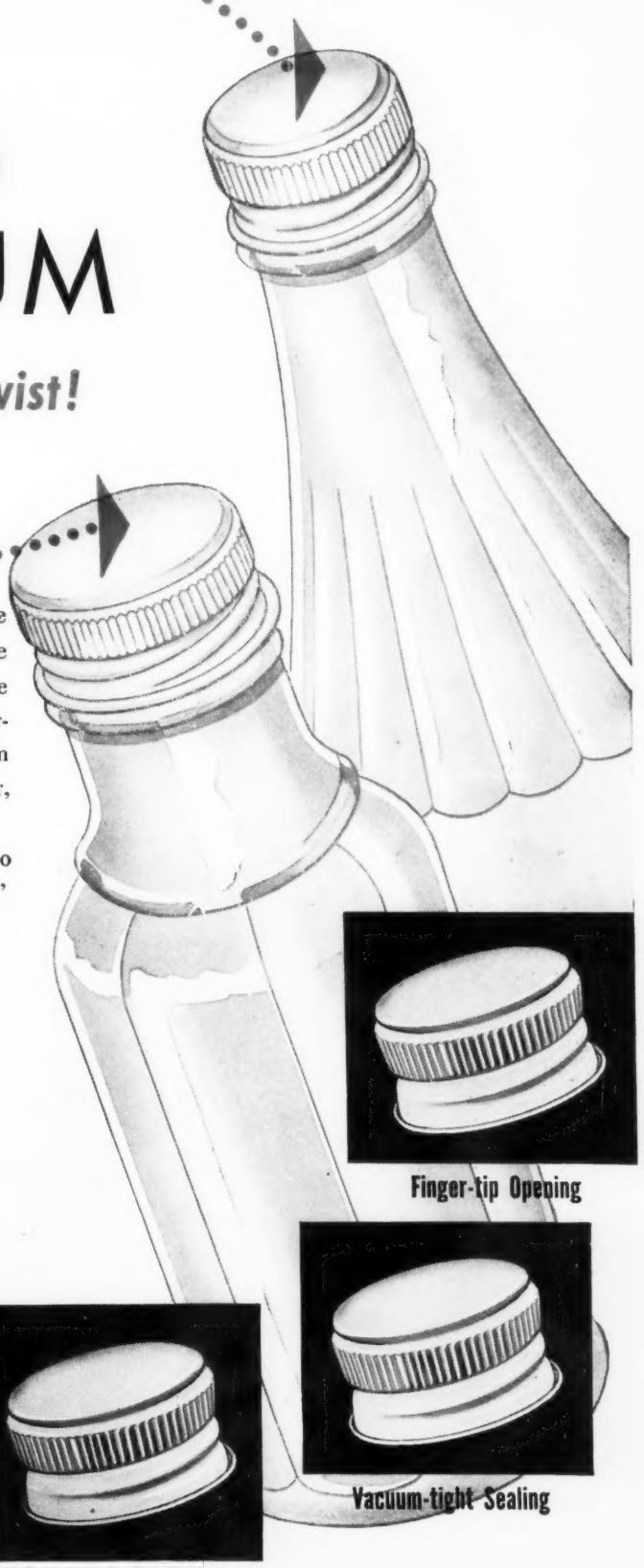
H. H. HEINRICH
INCORPORATED

200 VARICK STREET, NEW YORK 14

HyTop RO

HOLDS A VACUUM

. . . opens with a twist!

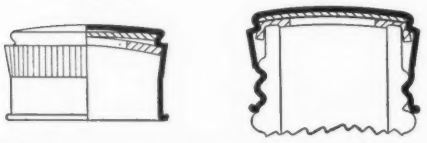


Here's a bright, tight "bonnet" for Catsup or Chili Sauce bottles. The Alseco HyTop RO provides the double security of both top and side seal—holds a positive vacuum—gives your customers a closure that is finger-tip-easy to open—easy, quick to replace. The aluminum HyTop with its deep-skirted flange comes in any color, lithographed design or top embossing you desire.

For more details about the HyTop RO, and other Alseco closures, write for handsome new catalog, "Alseco Seals"

"TAILOR-MADE" APPLICATION

BEFORE *AFTER*



The HyTop comes with a straight-sided skirt. When applied by an Alseco Sealing Machine under controlled top pressure—a top and side seal is effected—then rollers form threads to exact contour of the glass.

Finger-tip Opening

Vacuum-tight Sealing

High-speed Application

ALSECO SEALS

AND SEALING MACHINES

ALUMINUM SEAL COMPANY, INC. • RICHMOND, INDIANA • SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA


Make

more eyes reach for your product ...in cartons of Coated Lithwite*

GIVE YOUR PRODUCTS AN EYE-CATCHING ADVANTAGE AT THE POINT OF SALE, IN FOLDING CARTONS OF *COATED* LITHWITE... THE *QUALITY* CLAY-COATED BOARD, *PLUS!*

You don't hear much desk-pounding about "allocations" in many sales conferences, today. Instead, the talk is all about "sales quotas" . . . about ways to get a break over competition and move merchandise off dealers' shelves faster.

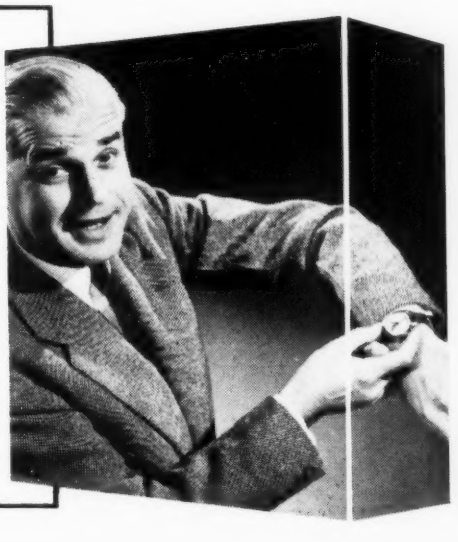
Many leading companies have discovered that one important way to give their products such a break is with eye-catching cartons of *Coated* Lithwite.

For this revolutionary clay-coated board (the clay-coating is filmed on with mechanical uniformity in one straight-through operation) is unusually white and bright. Its surface is chalk-free, velvet-smooth. Colors print brilliantly on cartons and packers of *Coated* Lithwite. Product pictures reproduce with sharp, "look-at-me" realism. Rub-resisting. Fade-resisting, too.

Worth investigating, isn't it? Write. We'll send a representative with complete facts.

Want more U.P.M.'s† from your filling machines?

†Would 5, 10, 15% more Units Per Minute from your filling machines mean worthwhile dollar savings to you . . . worthwhile extra production? Gardner-Richardson cartons—Precision Engineered for extra speed, less waste—have effected such savings for many companies. Why not let us study your cartons, your specifications, and your operations? Perhaps we can help work out similar savings for you. Write.

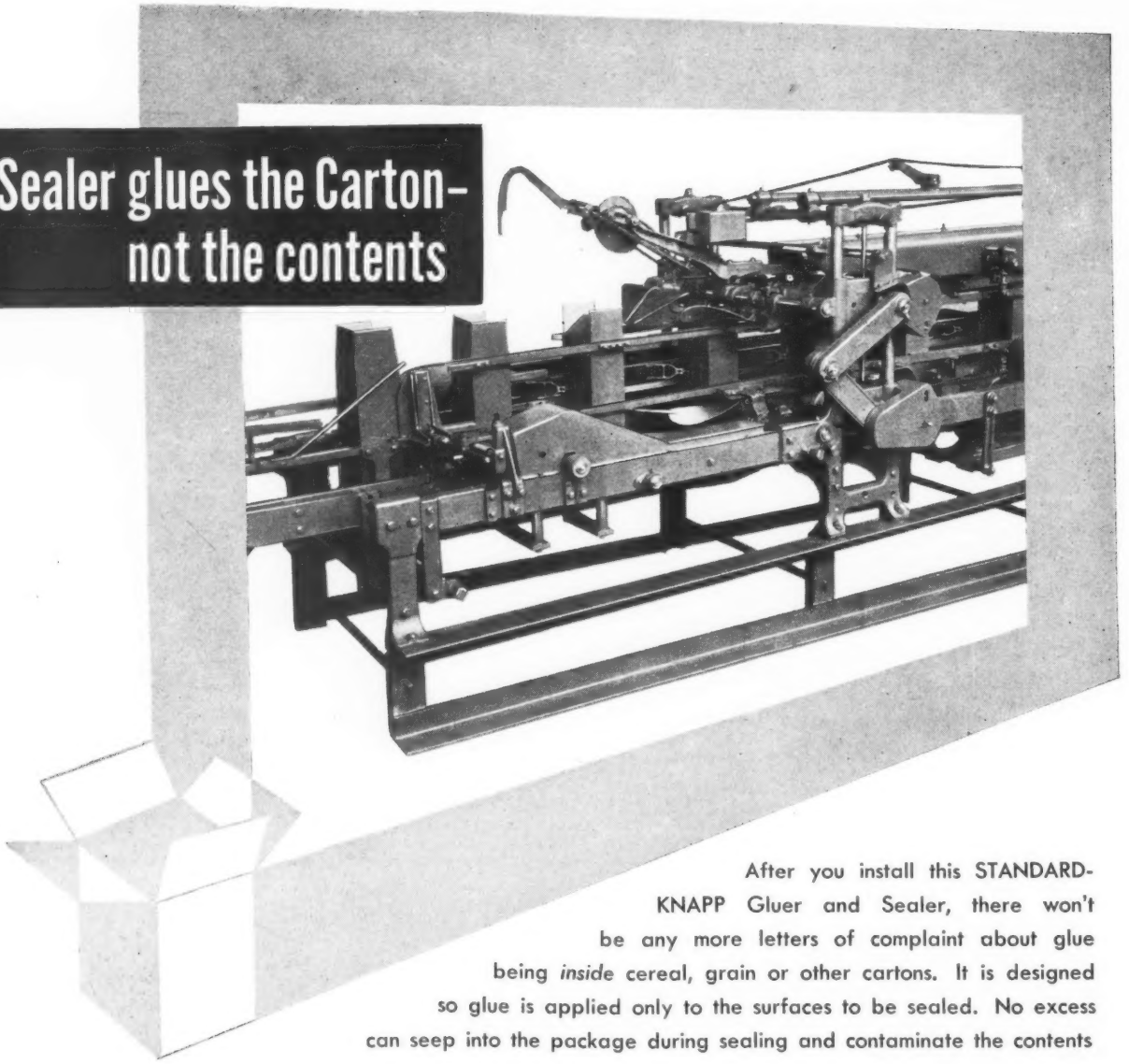


THE GARDNER-RICHARDSON CO.

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

*Reg. U.S. Pat. Off. Sales Representatives in Boston, Chicago, Cleveland, Detroit, New York, Philadelphia, Pittsburgh, St. Louis

This Sealer glues the Carton—not the contents



After you install this STANDARD-KNAPP Gluer and Sealer, there won't be any more letters of complaint about glue being *inside* cereal, grain or other cartons. It is designed so glue is applied only to the surfaces to be sealed. No excess can seep into the package during sealing and contaminate the contents

Like all other STANDARD-KNAPP equipment—can labelers, bottle packers, case packers—the Standard-Knapp Gluer and Sealer can be easily connected to your present conveyor system. Its heavy-duty construction assures dependable, uninterrupted service with a minimum of maintenance. All parts are accessible for easy cleaning.

Our packaging engineers will be glad to show you how the STANDARD-KNAPP Gluer and Sealer and other STANDARD-KNAPP equipment can add to the economy and efficiency of your plant operation.

Standard-Knapp Corporation

MANUFACTURERS OF CASE SEALING, CASE PACKAGING AND CAN LABELING MACHINES
FACTORY and GENERAL OFFICES—PORTLAND, CONNECTICUT

570 Lexington Avenue
NEW YORK 22, N. Y.

305 North Brand Blvd.
GLENDALE 3, CALIF.

6 Radcliffe Rd.
ALLSTON 34 (Boston), MASS.

221 North La Salle St.
CHICAGO 1, ILL.

3222 Western Avenue
SEATTLE 99, WASH.

Lister Bldg., 42 James St.,
North Hamilton, ONTARIO, CANADA

145 Public Square
CLEVELAND 14, OHIO

1412 N. W. 14th Avenue
PORTLAND 5, OREGON

Orlando
FLORIDA

300 Seventh Street
SAN FRANCISCO 3, CALIF.

3615 Olive Street
ST. LOUIS 1, MO.

Windsor House, Victoria St.
LONDON S. W. 1, ENG.

COLLAPSIBLE METAL TUBES

TIN • TINCOATED • LEAD • ALUMINUM

Made under the capable management and supervision of craftsmen whose experience and knowledge extends thru two generations

- HOUSEHOLD CAN SPOUTS
- SPRINKLER TOPS
- CYLINDERS

Pioneers in the fabrication of tinlined tubes.

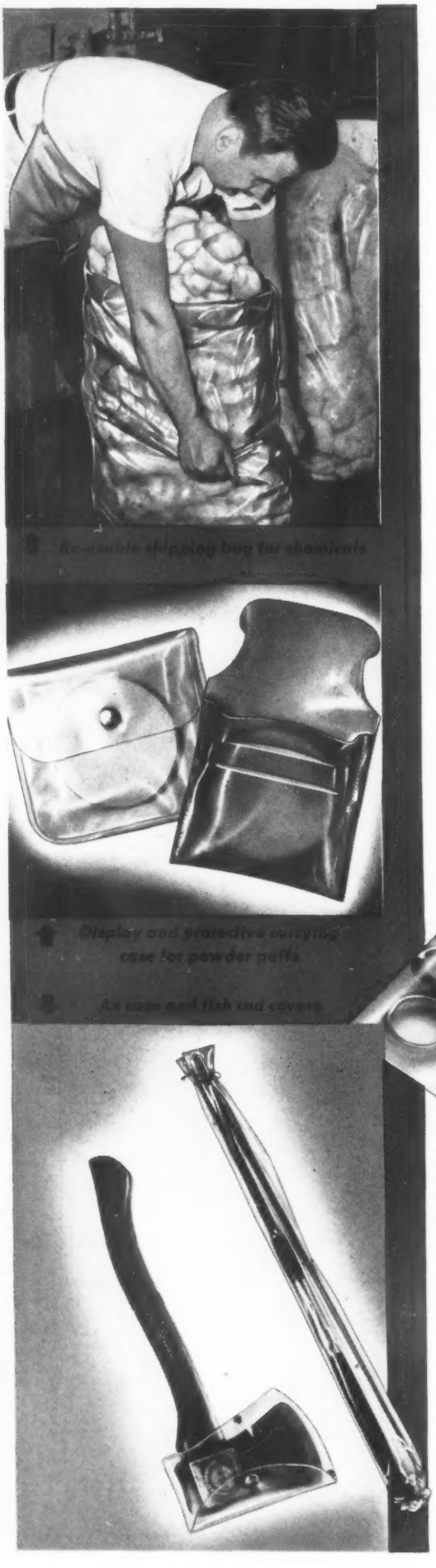
ART

TUBE COMPANY, INC.

500 LYONS AVE. IRVINGTON 11, N. J.

Telephone WAverly 3-6400

ART TUBES MAKE A GOOD PRODUCT LOOK BETTER



WHAT CAN YOU SEE IN THESE PACKAGES

. . . besides the products?

Of course you can see the rich wood grain in the fishing rod, the downy fibers of the powder puff, the assortment of the twist drills . . .

But in the VINYLITE Brand Plastic Sheeting or Film these products are wrapped in, you can also see . . .

- ✓ **Imperviousness to moisture**
- ✓ **Resistance to oils, greases, acids, alkalis, most strong chemicals**
- ✓ **Pliability with flex resistance**
- ✓ **Toughness and tear resistance**
- ✓ **Non-aging, non-discoloring qualities**
- ✓ **Extreme transparency where desired**
- ✓ **Ease of fabrication**
- ✓ **Heat sealability**

This economical, ideal material for packaging products that call for utmost protection while deserving utmost display, comes in a wide variety of colors, thicknesses and sheet sizes. It accepts printing and embossing beautifully. It doesn't crack, crease, check, or grow brittle.

If you'd like to know more about the packaging and display uses of versatile VINYLITE Brand Plastic Sheeting and Film, write to Department EL-55 for further information.

Transparent case for scissors and changeable blades by Cox Plastics Corp.

Handy holder for twist drills by Pioneer Valley Plastics Co.

Vinylite BRAND **PLASTICS**

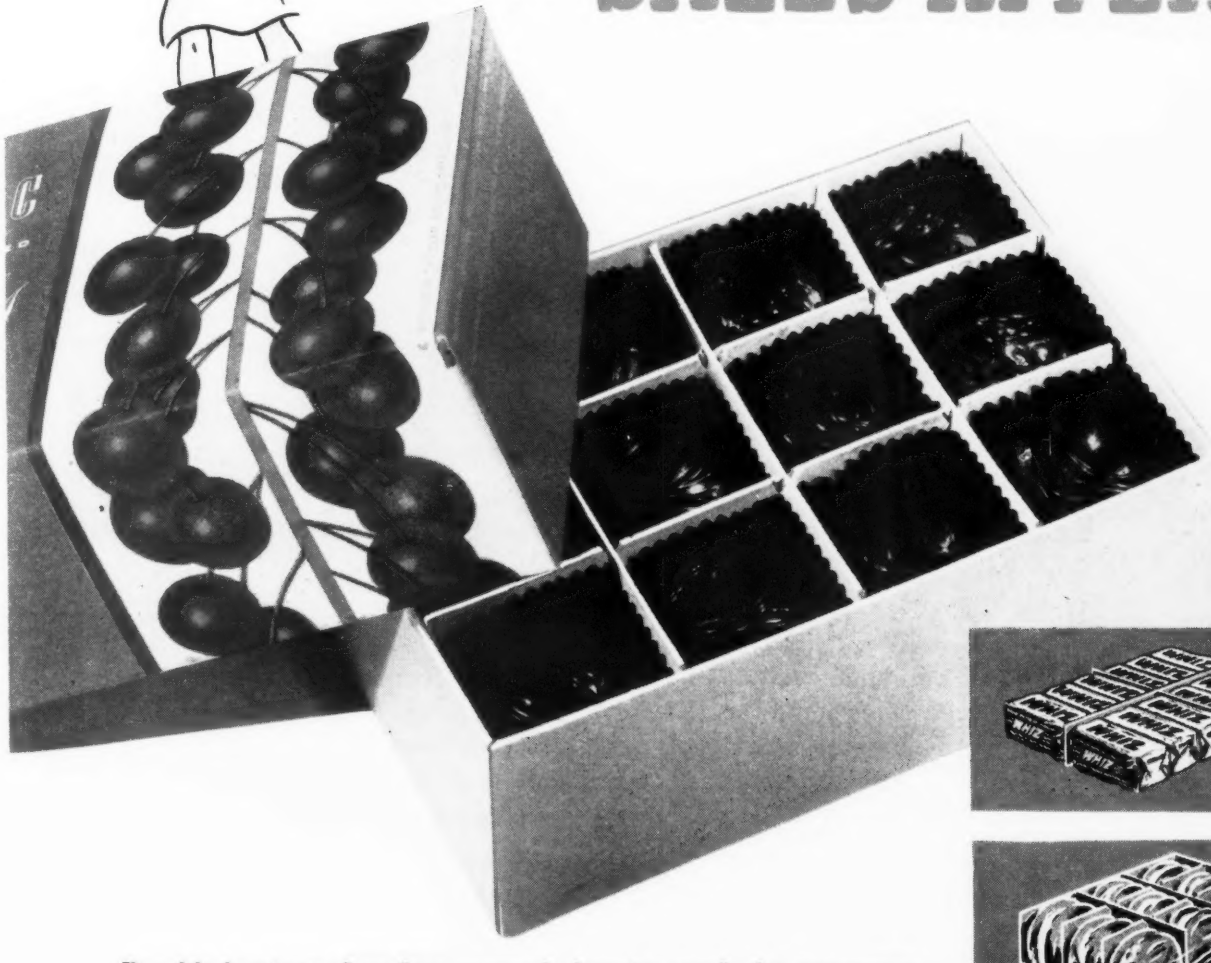
BAKELITE CORPORATION

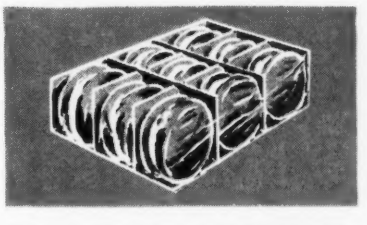
Unit of Union Carbide and Carbon Corporation

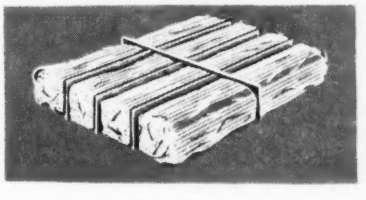
UCC

30 East 42nd Street, New York 17, N.Y.

PACKAGING BY *Traver*
MEANS
PROTECTION
PLUS # SALES APPEAL







Brach's luscious chocolate covered cherries reach the consumer in perfect condition in Traver's Loxtite partitions. Each piece of candy rides safely in style in its individual compartment. Why not make sure that your product reaches market in the same perfect condition by investigating the possibilities of Traver's Loxtite partions for your particular package. Loxtite partitions are ideal for all types of external and internal packaging of fragile articles.

Sales Offices in Chicago, New York, Philadelphia, Pittsburgh, Cleveland, Kansas City, St. Louis, Dallas, Detroit, Oakland

Write or wire for information.

Traver CORPORATION

TRAVER CORPORATION, 366 W. ONTARIO ST., CHICAGO 10, ILLINOIS

CONVERTERS AND PRINTERS OF CELLOPHANE, PLASTICS, ACETATES, FOIL AND GLASSINE

"RIGHT TACKLE JONES ALSO PLAYED A GOOD GAME"

The holes in sales resistance and competition that pave the way to greater profits do not just happen . . . no more than the holes in opposing lines that pave the way to touchdowns. They're made to happen. The plaudits may go almost entirely to the products, but smart merchandisers know that without path-clearing support the best of products seldom get beyond the line of scrimmage.

The "Right Tackle Jones" who gets but casual mention in most corporate annual reports, the invaluable teammate of advertising and promotion as well as of products, is good packaging. It is *sure* to be good if, as with custom-made Ridgelo, the boxboard surface and substance meet definite specifications, faithfully reflect sound design and fine printing.

No two *unalike*, whether they be sheets from the same order or sheets from reorders to set specifications, is the wonderful uniformity factor of Ridgelo.

Sharp contrasts, a keystone of smart color effects, are possible only against backgrounds of stark reflective quality—the kind *characteristic* of Ridgelo.

The perfectly and specially *sized* surface of No. 41 Finish Ridgelo is the best in all the business for use of gloss inks, varnish or lacquer applications.

Sub-surface coloring with *integral* pigmentation, is the secret of the remarkable permanence, the perfect sample matching, of Ridgelo's colored type boxboard.

Ridgelo
CLAY COATED
BOXBOARDS

MADE AT RIDGEFIELD, N. J. • BY LOWE PAPER COMPANY

Representatives:
H. B. Royce, Detroit
Norman A. Buist, Los Angeles
A. E. Kellogg, St. Louis
Philip Rudolph & Sons, Inc., Philadelphia

The new specially designed nozzle of the WIRZ grease-tip tube prevents grease "backfiring," cuts lubricant losses. Tapered and long enough for practically every type outboard motor, the nozzle fits snugly into lower unit diameter openings from 19/64" to 13/32" . . . reduces the inconveniences of the lubricating job. WIRZ grease-tip tube has met instant approval everywhere.

Among the leading manufacturers who have adopted the new WIRZ grease-tip tube are Texaco, Dixon, Evinrude, Johnson, Socony-Vacuum, Whiz, etc.

If you want to increase the speed, economy and convenience of your product-in-use, it will pay you to try WIRZ collapsible metal tubes. The grease-tip tube is one of many practical tube designs for a specific purpose produced by WIRZ in the consumer and industrial fields since WIRZ made the first tubes in America back in 1872. Write today for samples and recommendations.

ESTABLISHED 1836
A. H. WIRZ Inc.

Fourth & Cole Sts. CHESTER, PA.

New York 17, N. Y. 50 E. 42nd St. | Chicago 4, Ill. 80 E. Jackson Blvd. | Memphis 2, Tenn. Wurzburg Bros. | Havana, Cuba Roberto Ortiz Planos | A. G. Spilker Los Angeles 14, Calif. 1709 W. 8th St., Exposition 0178 | Export Division—755 Drexel Bldg., Philadelphia 6, Pa.

Collapsible Metal Tubes • Lacquer Linings • Wax Linings • Westite Closures • Soft Metal Tubing • Household Can Spouts • Applicator Pipes • Compression Molding

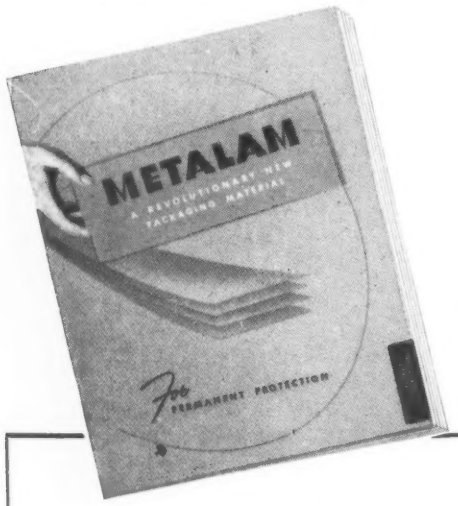
2 PRACTICAL ANSWERS

for Tough Packaging Problems

For products requiring an unusual degree of protection, especially against change of moisture content, Dobeckmun offers two proved, laminated combinations which are adaptable to any size or shape of package.

TRITECT* for Toughness

Triple sandwich of cellophane and wax, dead-folding, flexible, transparent, for use where single or duplex cellophane packages are inadequate. Especially valuable for any product requiring moisture protection, such as hygroscopic chemicals and pharmaceuticals, tobacco, plant bulbs, fine metal parts, candy, factory-processed frozen fruits, vegetables and juices. Can be used with or without outside container. Light weight and compactness afford important shipping and handling economies. Available in bags, sheets and rolls, plain or attractively printed in one or more colors.



METALAM* for Protection and Sales Impact

For single-unit packages or for larger quantities, METALAM offers the finest flexible protection. Dozens of combinations of films and foils can be specifically engineered to your products, packing and selling methods. Sharp, brilliant printing adds powerful sales impact, brings new customers and repeat sales. Available in sheets or rolls for high-speed, automatic packaging machines.

*Registered Trade Mark

Resourceful Packaging Service

Send for folders illustrated, giving details on TRITECT and METALAM. Or, ask us for suggestions for bags, wraps or that combination of film or foil which best suits your products' peculiar requirements. *The Dobeckmun Company, Cleveland 1, Ohio. West Coast Division, Berkeley 2, California.*

DOBECKMUN

Self-selling packages in processed films and foils

Branch Offices:
Atlanta, Boston, Chicago, Cincinnati, Los Angeles, New York, Philadelphia, Portland, St. Louis, St. Paul and Seattle. Representatives everywhere.

They're all-

Tom Huston Peanut Co., products!

They're all-

WRAP-O-MATIC wrapped!

We are proud to display this group of Tom Huston Peanut Co. products, "dressed-to-sell" by Wrap-O-Matic wrapping.

Wrap-O-Matic was chosen on merits of performance . . . high speed, economical wrapping of fragile, regular or irregular shaped products without the use of collars, trays or other protective materials, permitting the products to be displayed in full view when using transparent wrappers.

High speed wrapping up to 120 units per minute . . . economical wrapping with savings up to 75% in wrapping labor and up to 35% in wrapping material. These savings combined with the added eye- and sales-appeal mean lowered costs, more sales, more profits.

Enjoy the benefits of Wrap-O-Matic wrapping —send us samples of your products and ask for illustrated literature.

LYNCH CORPORATION

Package Machinery Division TOLEDO 1, OHIO U. S. A.

What's Rocking Your Boat?

High Packaging Cost Can do it!

Too often a buyer gets a "lower" bid or first cost on his cartons but then pays a lot more through spoilage and loss in production time.

Guilford cartons are "Precision Built" and flow through your automatic packaging machinery as "Precision Built" cartons should.

For nearly 25 years GUILFORD has been building *precision uniformity* into quality cartons. Given the opportunity, we can do the same thing for you. This is no time to let anything rock your business boat!

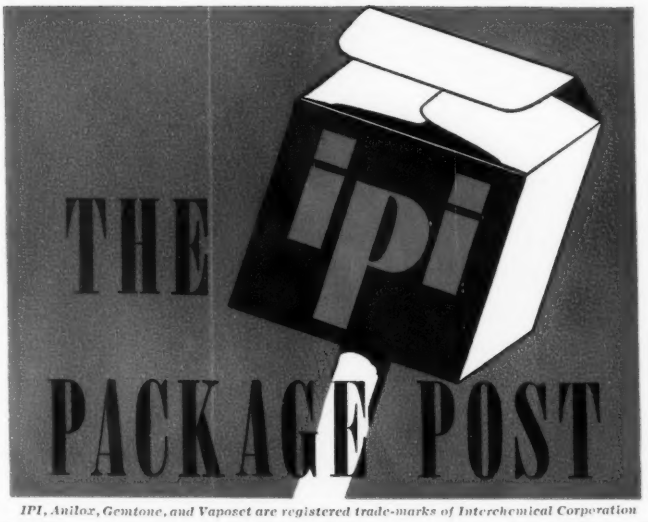
THE GUILFORD FOLDING BOX CO.

Haven Street and Ashland Avenue • Baltimore 5, Maryland • Phone: Orleans 2043

QUALITY CARTONS Faithfully Produced

Imagine . . . a Movie on How to Order a Rainbow!

There is a veritable rainbow of colors to be seen on the package-crowded shelves of even the smallest neighborhood supermarket. How the printing ink maker produces this rainbow of colored inks – with adequate resistances to deteriorants engineered in – is one of the highlights of the new IPI sound and color movie, "Rainbows to Order," available free to package printers and other interested groups.



IPI, Anilox, Gemtone, and Vaposet are registered trade-marks of Interchemical Corporation

. . . And May All Your Packages Be Twins!

It speaks well for a product when the colors on its packages – no matter where printed – look alike. That's why many package printers use our color control service. With a photoelectric spectrophotometer, we plot a "curve" of each of your colors, also make "tolerance curves" beyond which the colors may not vary. These curves become standards against which you can check production-printed colors at any time.

IPI • DIVISION OF INTERCHEMICAL CORPORATION • 350 FIFTH AVE., NEW YORK 1 • ADDRESS INQUIRIES DEPT. MP11

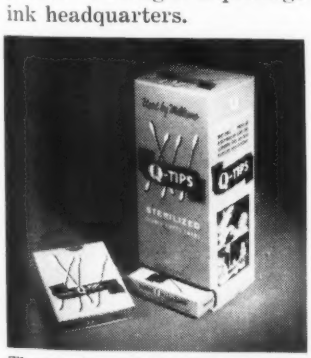
"TAKE A CUE FROM Q-TIPS," IF YOUR PACKAGE IS GOING TO BE STERILIZED AFTER PRINTING

"They're sterilized," is an important feature of Q-Tips, packaged swabs for baby care, first aid, home hygiene, and beauty make-up.

Not only the swabs but the *printed packages, too, are subjected* to *steam under pressure* according to U. S. Pharmacopoeia sterilization procedure.

The problem presented to us was that of retaining the color of the print. The problem was solved with IPI Vaposet inks...inks which actually set in moisture. Also important, the Vaposet inks match the color of the non-rub IPI oil inks used on the Q-Tips dispenser carton.

Now Q-Tips has color-matched packages and dispensers, despite the fact that they must be printed with different inks, and that the package inks must withstand sterilization. Have you a problem like this? Bring it to package ink headquarters.



The Q-Tips package and the dispenser shown in the photograph above were printed by the Wilson Paper Box Co., Richmond, Virginia. Although the package and the dispenser are each printed with different inks colors match perfectly.

Q-Tips are sterilized in the package by U. S. Pharmacopoeia sterilization procedure. Inks must withstand steam under pressure.

CUBAN ANILINE PRINTER GETS AN ASSIST FROM HUMIDASSIST

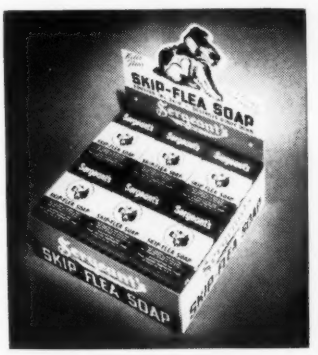
The next time humid weather gives you difficulty with your aniline printing, you might profit from the experience of Paul J. Klapper, Production Manager of M. J. Diaz y Cia, Havana, Cuba, and get an assist from Humidassist. Says Mr. Klapper:

"Your Humidassist aniline ink is all you claim. As you know, we have unusual weather conditions here in Cuba, very hot, very humid. Also the construction of one of our presses tends to sour ordinary aniline ink. With the new Humidassist ink, we have no souring and get better printing all around."

ANSWERS TO PHOTO-QUIZ: 1. IPI 100 per cent pigmented Anilox inks. 2. IPI Gemtone process colors.

DON'T SKIP SKIP FLEA'S YELLOW —IT'S DOGGONE GOOD

If you like to use yellow for brightness, or as a background color to increase the legibility of type, you won't want to skip seeing this Sergeant's Skip-Flea dog soap carton. Much of the background is a smooth, even, unmottled, and brilliant yellow ...uh huh...supplied by IPI. Printer is the Central Carton Co., Cincinnati, which rates congratulations.



HERE'S HOW TO GIVE YOUR INK SUPPLIER A PIECE OF YOUR MIND!

Rule No. 1 is to tell him off early. Then stand right up to him and let him know what you think about how much the package is going to be exposed to sunlight, heat, and moisture...what deteriorants it must be proof to...whether it will be handled often...and what paper will be used. P. S. He'll take it and like it.

DAILY PROBLEMS NO FUN? LEAVE 'EM AS IS: RELAX A MINUTE WITH THIS PHOTO-QUIZ

The pictures below represent printing inks which solve specific package printing problems. Can you name them? Answers are at bottom of second column.

These aniline inks provide opacity where it's needed on transparent package materials. They are pigmented. They also print sharp, have a high degree of light-fastness, and work well on highly plasticized grades of cellophane.

These process colors look as bright when dry as they do when wet. Use them for four-color work on labels and packages and you'll get sparkling results. They were specially developed for sheet-fed presses and dry on top of the sheet . . . *fast*.

For Corking Performance

However distinguished the name on a bottle . . . the lasting quality of its contents depends on the security of its Cork Closure.

Nature provides the raw material . . .

Mundet, with over 80 years experience in the selection and fabrication of Cork, provides Cork Closures so dependable in their sealing service as to make them responsible for the good name of the bottled product.

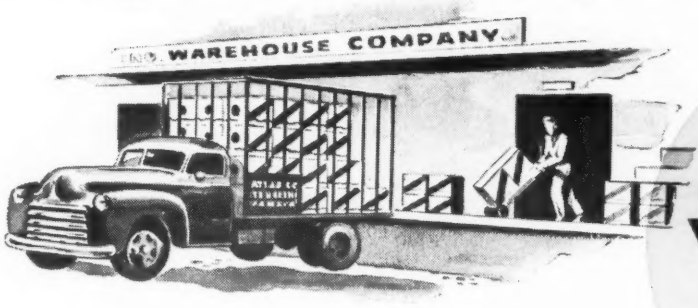
Mundet Cork Closures are made in types and styles for every sealing purpose. Ask for practical suggestions on modern sealing with cork.
Mundet Cork Corporation, Closure Division, 7101 Tonnelle Avenue, North Bergen, N. J.

ATLANTA
339-41 Elizabeth Street, N.E.
CHICAGO 16
2601 Cottage Grove Avenue
CINCINNATI 2
427 West 4th Street
DALLAS 1
505 Southland Annex
DENVER
The Stone-Hall Co.
DETROIT 21
14401 Prairie Street
HOUSTON 1
Commerce and Palmer Streets
JACKSONVILLE 6, FLA.
800 E. Bay Street
KANSAS CITY 7, MO.
1428 St. Louis Avenue
SAN FRANCISCO 7
440 Brannan Street
and
J. C. MILLETT CO.
118-32 Sacramento St.
LOS ANGELES (Maywood)
6116 Walker Avenue
LOUISVILLE 10
1416 Arbegust Street
NEW ORLEANS 16
315-325 N. Front Street
PHILADELPHIA 39
856 N. 48th Street
ST. LOUIS 4
2415 South Third Street

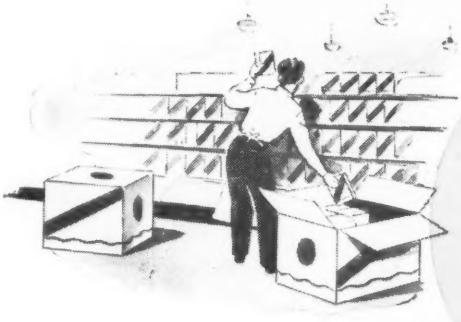
In Canada: Mundet Cork & Insulation, Ltd., 35 Booth Avenue, Toronto

MUNDET CORK CLOSURES

Better Selling for your product through every step of distribution



In the warehouse and on trucks



In the retailer's store

In the consumer's hands

Modern merchandising calls for better product identification and favorable acceptance through every channel of distribution to its final disposition.

Gaylord printing on better, more uniform materials made into shipping containers and folding cartons by the most modern manufacturing methods assures greater sales appeal and greater protection.

Call your nearest Gaylord Sales Office

GAYLORD CONTAINER CORPORATION, General Offices: **ST. LOUIS**

- Corrugated and Solid Fibre Boxes
- Folding Cartons
- Kraft Grocery Bags and Sacks
- Kraft Paper and Specialties

New York • Chicago • San Francisco • Atlanta • New Orleans
Jersey City • Seattle • Indianapolis • Houston • Los Angeles • Oakland
Minneapolis • Detroit • Jacksonville • Columbus • Fort Worth
Tampa • Cincinnati • Dallas • Des Moines • Oklahoma City • Greenville
Portland • St. Louis • San Antonio • Memphis • Kansas City
Bogalusa • Milwaukee • Chattanooga • Weslaco • New Haven
Appleton • Hickory • Greensboro • Sumter • Jackson • Miami

176

Something NEW *has been added!*

Sefton's STRING-OPENING CAN

Here's a composite fibre can with all the inherent advantages of strength, rigidity, protection and appearance

Plus...

the new string-opening that adds these important selling aids to your product:

- Tamperproof
- Factory-sealed
- Clever, easy opening
- Full opening for dispensing
- Simple and positive reclosure

Available in Many Shapes and Sizes

SEE THE STRING-OPENING CAN AND SEFTON'S WIDE VARIETY OF OTHER FIBRE CANS

Write or Call Today for Details!

Sefton FIBRE CAN COMPANY

ST. LOUIS . . . . . NEW ORLEANS

DIVISION OF CONTAINER CORP. OF AMERICA

DISTRICT OFFICES: • Los Angeles • Salt Lake City • Denver • Dallas • Chicago • Cincinnatti • New Orleans • Boston • Detroit • Kansas City • St. Paul Omaha • New York • Cleveland • Oklahoma City • Pittsburgh • Memphis • Nashville • Seattle • Portland

DECOTONE

DECORATIVE TRADE MARK PAPERS

● Decotone produces trademark papers with numerous types of decorative treatment. Prominent among these are: 1. Reverse plates printed with bright, attractive aniline inks of exceptional brilliance. 2. White coated stock with printing in gold metallic ink. 3. Plain embossing on white or colored coated stock. 4. Colored designs on white or tinted backgrounds. These decorated papers are suitable for box coverings, wrappings, and bags. Send for full information and samples of representative jobs.

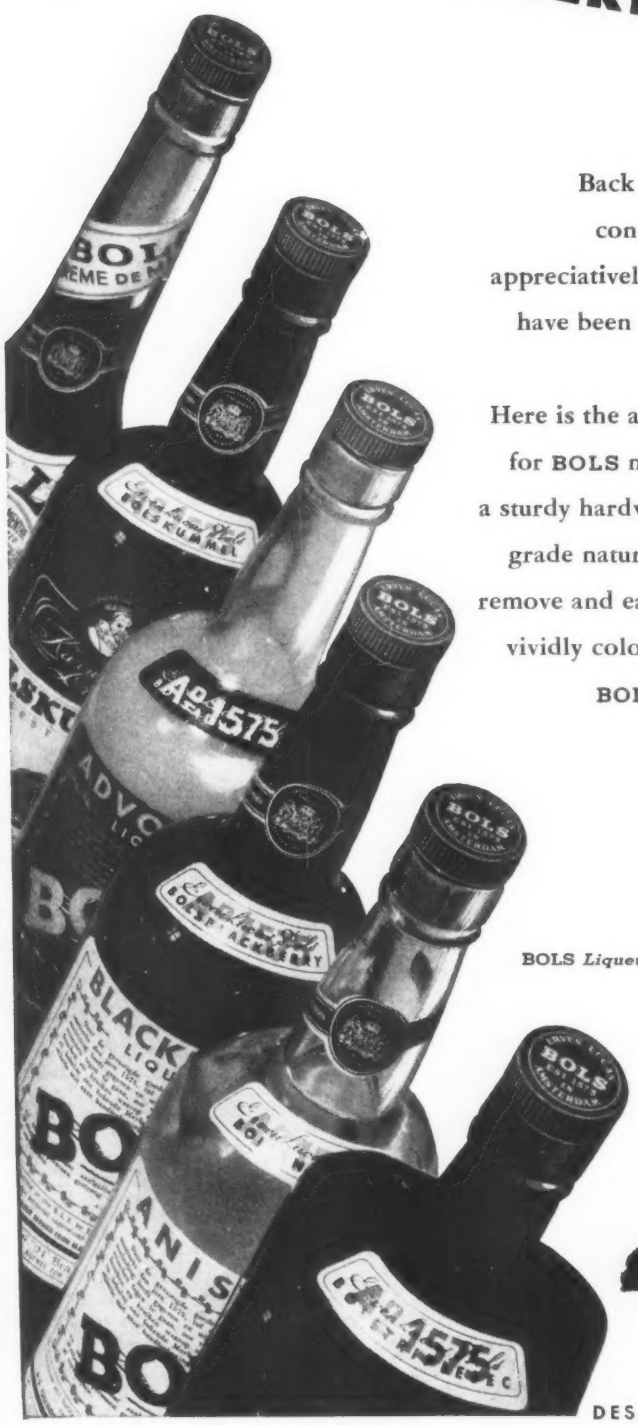
SPOT PRINTED BOX COVERINGS
LAYOUT PRINTED PAPERS
CONTRACT GRAVURE PRINTING

Let our design department prepare sketches for a paper using your trademark. No obligation.

DECOTONE PRODUCTS
DIVISION
Fitchburg Paper Company
PACKAGING PAPERS *Converted Papers* SPECIALTY PAPERS
FITCHBURG, MASS.

Dodge CORKS

TOP AN OLD INTERNATIONAL FAVORITE



Back in the days when the Spanish Armada ruled the seas, connoisseurs of fine liqueurs were already sipping **BOLS** appreciatively. Universally acclaimed, these distinguished liqueurs have been finding favor since 1575. Significantly, **BOLS** calls on Dodge to safeguard their centuries old reputation. Here is the aluminum covered, wood top cork that Dodge created for **BOLS** newly designed packages. The cork is firmly joined to a sturdy hardwood top. To assure an airtight seal, Dodge cuts high grade natural cork to precise dimensions. This closure is easy to remove and easy to replace. Note the clean, sharp knurling. On the vividly colored aluminum top, the **BOLS** name stands out clearly. **BOLS** is just one of the many well-known names that rely on Dodge. Whatever your requirements you can be sure that Dodge will provide you with a closure that looks right and seals tight.

DODGE CORK COMPANY, INC., LANCASTER, PA.

BOLS *Liqueurs—since 1575*

Dodge

CORK CLOSURES

DESIGNED TO GUARD THE INTEGRITY OF THE CONTENTS

Low-cost packaging is yours with multiwall paper bags!

St. Regis Packaging Systems (Bag Fillers plus St. Regis Multiwalls) give you low-cost packaging.

And in addition you get added strength, protection, sanitation, and easier handling.

Today over 400 products are packed in multiwall bags. And there's a good possibility that you, too, can get this same *economical* packaging for *your* product. Because a St. Regis Multiwall can cover a widely diversified list of materials . . . ranging from molten compound to bulky rock products.

Call your nearest St. Regis sales office. Ask about complete St. Regis Packaging Systems and St. Regis Multiwalls. Learn if they fit into your production picture to help you slash packaging costs!

SALES SUBSIDIARY OF SR ST. REGIS PAPER COMPANY

ST. REGIS SALES CORPORATION
230 PARK AVENUE • NEW YORK 17, N. Y.

NEW YORK • CHICAGO • BALTIMORE • SAN FRANCISCO • ALLENTOWN • OFFICES IN PRINCIPAL CITIES
IN CANADA: ST. REGIS PAPER COMPANY (CAN.) LTD., MONTREAL • HAMILTON • VANCOUVER

ST. REGIS—WORLD'S LARGEST MANUFACTURER OF MULTIWALL PAPER BAGS

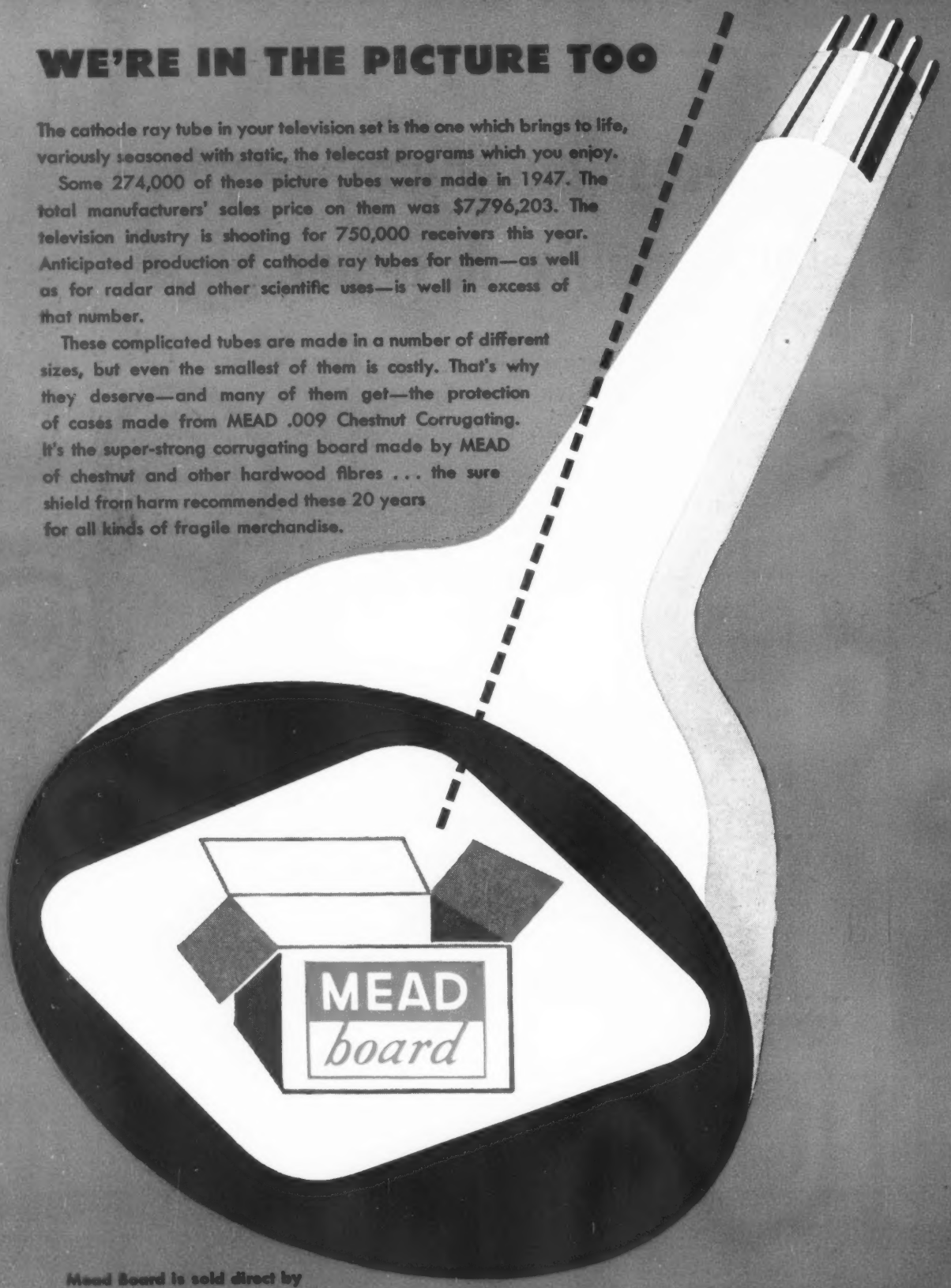
ST. REGIS PACKAGING SYSTEMS

WE'RE IN THE PICTURE TOO

The cathode ray tube in your television set is the one which brings to life, variously seasoned with static, the telecast programs which you enjoy.

Some 274,000 of these picture tubes were made in 1947. The total manufacturers' sales price on them was $7,796,203. The television industry is shooting for 750,000 receivers this year. Anticipated production of cathode ray tubes for them—as well as for radar and other scientific uses—is well in excess of that number.

These complicated tubes are made in a number of different sizes, but even the smallest of them is costly. That's why they deserve—and many of them get—the protection of cases made from MEAD .009 Chestnut Corrugating. It's the super-strong corrugating board made by MEAD of chestnut and other hardwood fibres . . . the sure shield from harm recommended these 20 years for all kinds of fragile merchandise.



Mead Board is sold direct by

MEAD BOARD SALES, INC.

3351 MADISON ROAD, CINCINNATI 9, OHIO

How carton assembly costs were cut 50%

Acme Silverstitch helps fixture manufacturer make stronger carton in half the time

They wanted a stronger carton assembled at less cost.

So Duro Test Corporation called the Stitching Division of Acme Steel Company.

Working with members of their shipping department, the Acme expert helped install a production-line packaging system built around an Acme Silverstitcher.

Now the Duro Test Corporation, North Bergen, New Jersey, packs its fluorescent fixtures in a stronger box in half the time, and saves 50% of previous labor cost. The finished package is a neater, better-looking job—for greater customer satisfaction.

Why not ask an Acme Shipping Specialist to look over your shipping and packaging problems? You won't be obligated, and savings are often substantial. Mail the coupon today for detailed information on what the Acme Silverstitcher can do for you.

ACME SILVERSTITCHER makes a neater, stronger carton at a saving of 50% in labor cost over the previous container assembly method.

STITCHING WIRE DIVISION

ACME STEEL COMPANY

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11

ACME & MORRISON Silverstitchers
REG. U. S. PAT. OFF.

AND SILVERSTITCH BOX-STITCHING WIRE

Acme Steel Company, Dept. MP-118
2838 Archer Avenue
Chicago 8, Illinois

Gentlemen:
Send me your free booklet describing Acme Silverstitchers.

Name.....

Company.....

Address.....

City..... Zone..... State.....

The High Speed

ROTO BAG MACHINE

MAKES EXTRA STRONG BAGS

WITH DOUBLE SEALED SEAMS

WHEN PRODUCTS are packed in ROTO-made bags they get maximum protection because the ROTO Bag Machine double-seals every bag seam—once with heat, once with high-strength adhesive. This special seam construction safeguards against the costly dangers of moisture spoilage, product loss through sifting, and bag failure due to split seams.

The ROTO makes these extra-strength bags of almost any heat-sealable material: cellophane, diaphane, aluminum foil and laminated films. Moreover, it can make them in any of four basic types: flat, gusset, single-wall or duplex.

Built for heavy-duty, trouble-free performance, the ROTO has the simplicity of operation desired by packers at speeds of interest to converters. Because it is constructed with precision craftsmanship of the finest materials obtainable, the ROTO Bag Machine is unconditionally guaranteed for performance and each of its parts is warranted against defect.

Write for detailed information, prices and delivery dates.

Attention: LATIN AMERICA

ROTO Sales and Service facilities are now available through the offices of the National Paper and Type Co. in all principal Latin American cities.

ROTO BAG MACHINE CORP.

310 EAST 22nd STREET NEW YORK 10, N. Y.

Hewett P. Mulford, Lebanon, Ohio, merchandises Springtime line of bulbs in open face box, machine wrapped with multi-color printed Lumarith wrap created by Shellmar Products Corporation.

Here's what Converters are doing Today

WITH LUMARITH* *Transparent* FILM

There's plenty of "sell" in the ideas coming from converters today. They are meeting the demands of merchandisers and manufacturers with product packaging that commands attention.

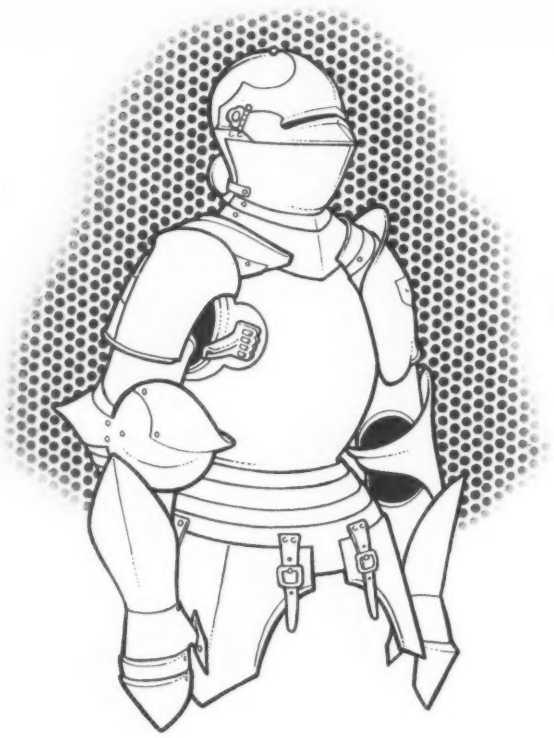
And, so often, their standout successes are created with Lumarith transparent film. This satin-smooth film has perfect crystal clarity for all types of packaging . . . for multi-color printing . . . for laminating.

It has the dimensional stability for wrinkle-free windows, and smooth, snug, machine wrapping.

The advice and assistance of a converter may work wonders for your product sales. Get in touch with one today. If you'd like to know the names of converters who are experienced in the use of Lumarith film, we will be glad to supply them. Celanese Corporation of America, Plastics Division, Dept. P-1, 180 Madison Avenue, New York 16, N. Y.

A *Celanese** *Plastic*

*Reg. U.S. Pat. Off.



metal your protection

This fellow had it hard. His dreadnought union suit was apt to rust on him; it was heavy and hot in there; and he needed a couple of monkey wrenches and a can opener to get himself properly packaged for the fray. As for getting out again . . . . well, maybe it ***was*** difficult in 1480 or thereabouts—but he found metal his safest protection.

So it is today. But we know more about metal now. These aluminum screw-top containers can protect your goods—and how well they do it! Light, rigid—the body is one seamless extruded piece—they have seamless caps, so easy to screw on and off. We can make these for you in any diameter up to 3″, and to any height you care to specify. Can you cap that?

Enquiries, please, to:

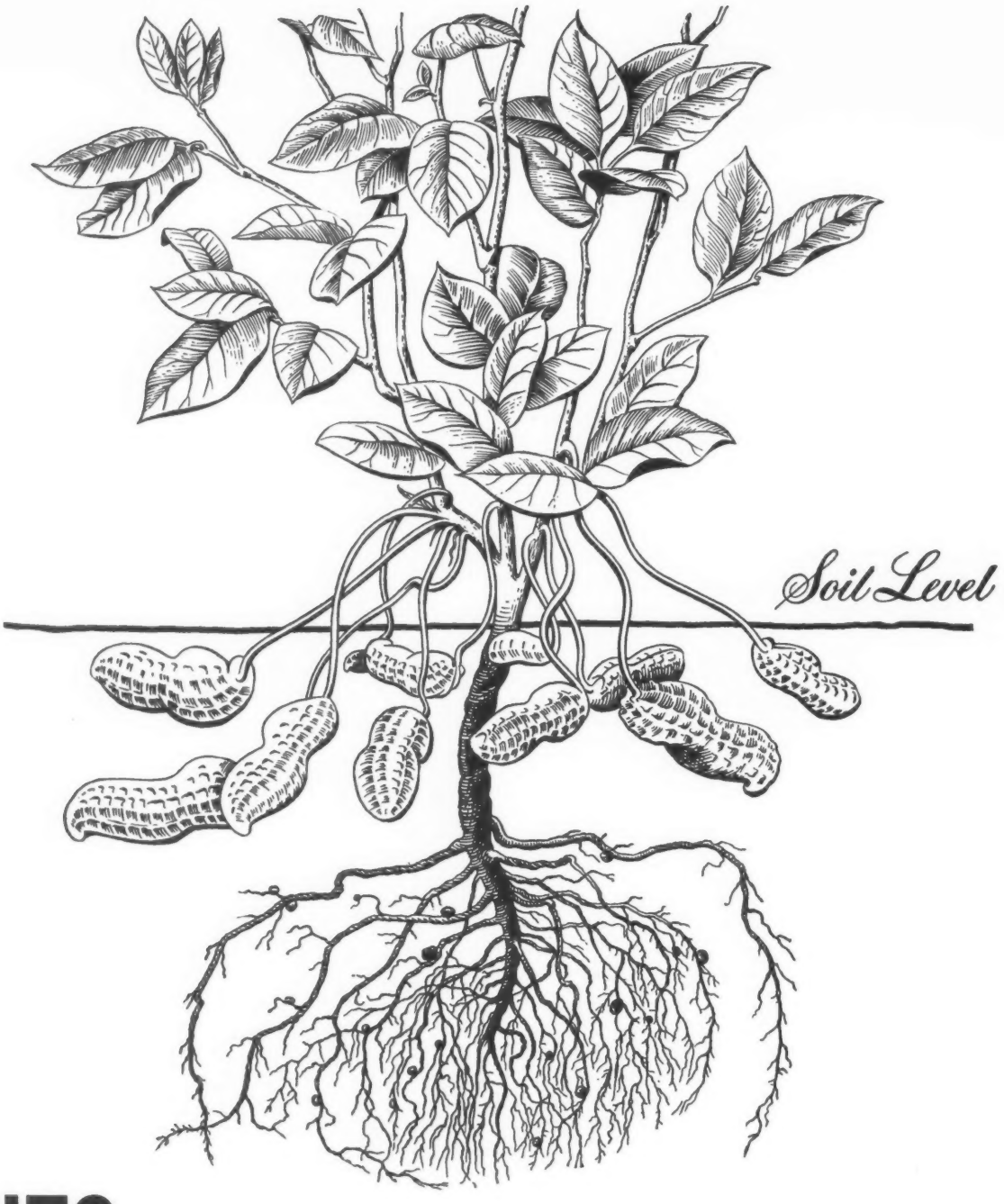
JOHN DALE LTD

NEW SOUTH GATE · LONDON · N.11 · ENGLAND

Has your product's package that distinctive quality which causes the customers to remember and return, demanding it above all others? Also, has it that quickly discernible re-use value, assuring day-in and day-out attention? If your answer is "yes" . . . the chances are that you are wisely pampering your product with a set-up box. The set-up is equaled by no other container for strength and for adaptability to custom design.

For added product sales, start with your package . . . your customer does. See your nearest set-up box manufacturer.

NATIONAL PAPER BOX MANUFACTURERS
Association
AND COOPERATING SUPPLIERS
Liberty Trust Building, Philadelphia, Penn.



NUTS...

peanuts, that is, have enjoyed a spectacular sales increase since vacuum cans were adopted.

Almonds, pecans, cashews and mixed nuts have also enjoyed tremendous sales increases.

Why?

Because the nut industry is using vacuum cans . . . millions of them annually.

They keep nuts roaster-fresh for months, even years.

Vacuum cans moved peanuts from the ball park to Park Avenue. Delicious, fresh nuts of all types became available everywhere because they could be shipped thousands of miles without product loss, and arrived in prime condition.

Here is an example of hand-in-hand co-operation between an industry and Canco that spells more profits through better packaging.

AMERICAN CAN COMPANY

New York • Chicago • San Francisco

This trademark CANCO *is your assurance of quality containers. Look for it!*

IDENTIFIES—INSTRUCTS—ADDS EYE-APPEAL

We do not make boxes or containers, but MARKEM equipment does just about every kind of marking on boxes, packaging and labels that you can think of.

Code control numbers, style, color, size, quantity, trade-mark, company name — these, and countless other details are imprinted, at top speed by the MARKEM method. Not just marked — but printed cleanly and lastingly in colors that harmonize with your all-over package design. MARKEM machines and inks will print helpful data — *as, how, when* and *where* wanted — on containers, cartons, boxes, covers, bottles, etc. And will do the printing in the flat or in some instances after packages are filled; will mark directly on the product itself — just as you desire.

MARKEM method is extraordinarily versatile and permits interchange of variable detail in seconds, thus keeping box and label inventory in balance with sales. MARKEM service is so complete that it offers from one source — machines, inks, equipment — to meet your individual requirements of speed, material and purpose. If you will send us *complete* details, our engineers will be glad to make recommendations. Better yet, send us samples which we will mark and return.

TO MEET YOUR SPEED—MATERIAL—PURPOSE

QUALITY
TUBES HELP
BUILD REPEAT
BUSINESS

TURNER
TUBES

REPRESENTATIVES

Elliott Salhs Service
420 Curtis Building
2842 W. Grand Blvd.
Detroit 2, Michigan

J. A. Bauer
521 Broadway
Cincinnati 2, Ohio

Keiffer & Son
2127 Aberdeen Avenue
St. Louis 17, Mo.

J. S. TURNER WHITE METAL COMPANY

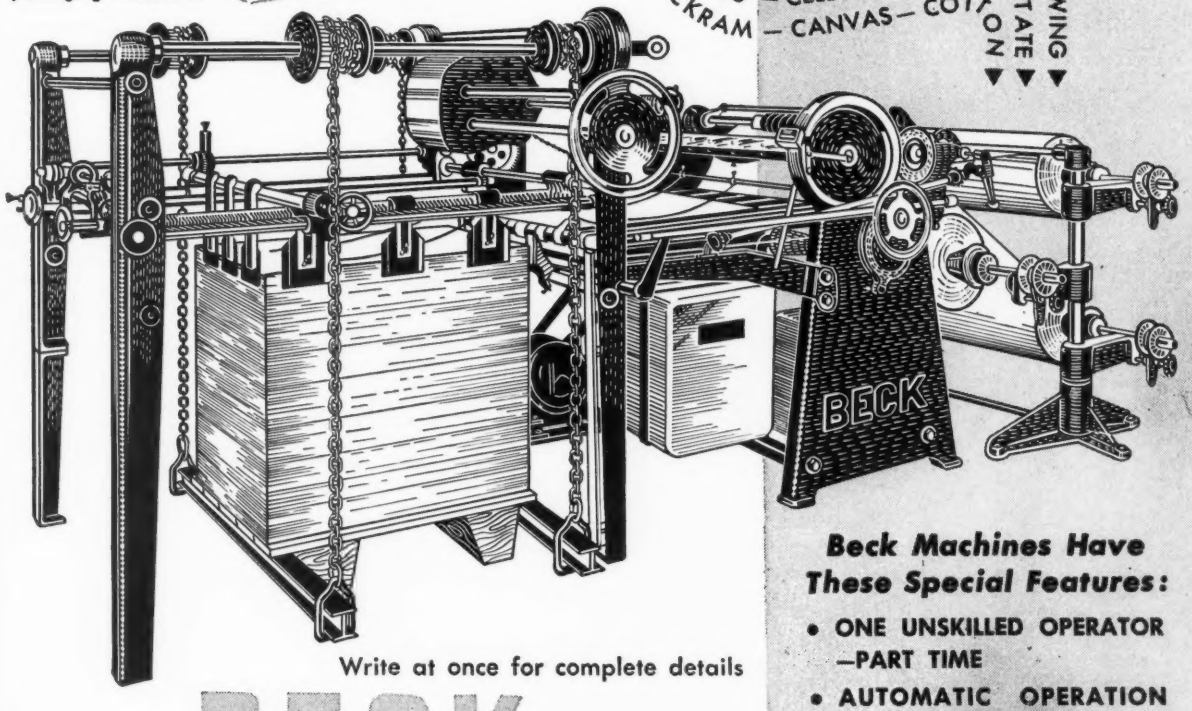
NEW BRUNSWICK . . . . NEW JERSEY

• CELLOPHANE TO LIGHTWEIGHT BOARD

▶ KRAFT — GLASSINE — WAXED — VELOUR — TISSUES — FOIL LAMINATES — PHOTO-SENSITIZED — BLUEPRINT — TRACING — DRAWING
▶ TRACING LINEN — TAG STOCK — SAFETY PAPER — WATERMARKED PAPER — LABELS — BREAD WRAPPERS — CELLOPHANE — ACETATE
▶ VINYLITE — POLYSTYRENE — VUEPAK — PLIOFILM — KODAPAK — PLASTIC LAMINATES — LEATHERETTE — BUCKRAM — CANVAS — COTTON

DE-CURLS CUTS COUNTS STACKS 'EM A MILE HIGH!

Designed for fine cutting of all types of paper and packaging materials.



Write at once for complete details

CHARLES BECK MACHINE CORPORATION

Automatic Roll Sheet Cutter

13th & NOBLE STS. PHILA. 8, PA.

BECK MACHINES

The Accepted Standard

Versatile

SHEET CUTTERS

USED THE WORLD OVER

Beck Machines Have These Special Features:

- ONE UNSKILLED OPERATOR —PART TIME
- AUTOMATIC OPERATION INCREASES PRODUCTION
- RIGHT SIZE SHEET READILY AVAILABLE
- NO CUTTING CHARGE
- CLEAN SHEAR-TYPE CUT
- * ELECTRIC-EYE ASSURES REGISTER CONTROL

*One of many additional features offered in diversified line of Beck Cutters

• CELLOPHANE TO LIGHTWEIGHT BOARD

PLAXPAK FILM KEEPS RUBBER FRESH

Armstrong Rubber Company is using Plax polyethylene film (Plaxpak) to package and protect its camel-back tire retread rolls and new whitewall tires. Result: more efficient packaging at reduced cost, particularly with camel-back.

Plaxpak film is used as an envelope for each roll of camel-back and as continuous backing between the layers. The backing peels cleanly, leaves no flakes for retreaders to pick off, and prevents adhesion within the roll. Because of its extremely low moisture-transmission rate, the Plaxpak envelope keeps the camel-back tacky, just right for use.

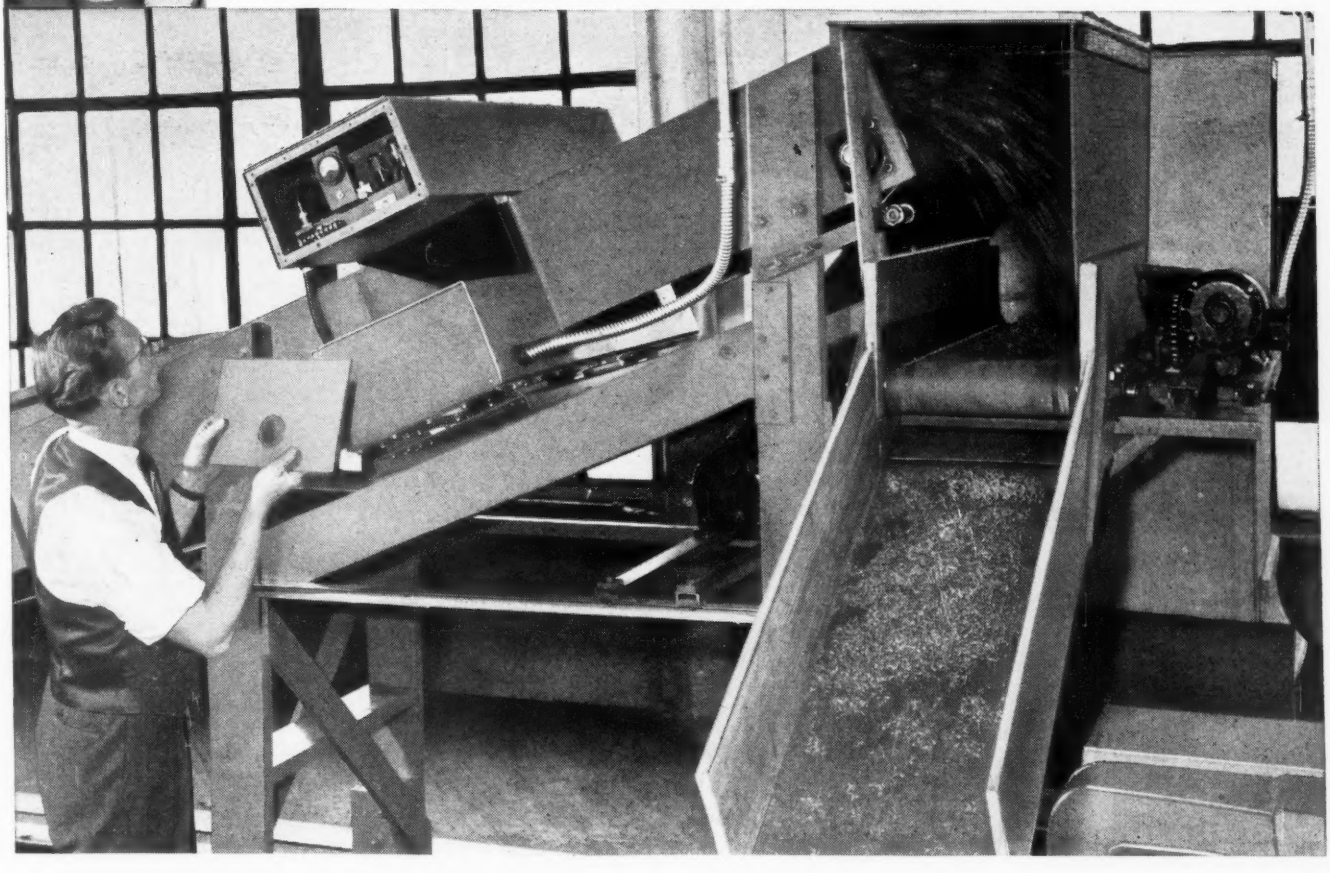
Plaxpak film comes slit to size and as seamless "Layflat" tubing. Please write for details.

PLAX
FOR PLASTIC SHEET, ROD & TUBES
NOT SUBSTITUTES ··· IMPROVEMENTS

P. O. BOX 1019 ★ HARTFORD 1, CONNECTICUT
In Canada — Canadian Industries, Ltd., Montreal

JOHNNY KEEPS

Philip Morris Cigarettes Metal-Free!



ALLIS-CHALMERS METAL DETECTOR PROTECTS UNIFORMITY OF PRODUCT

THE MANUFACTURING OBJECTIVES of the Philip Morris Company have always included high standards of purity and uniformity, as well as the other qualities so essential to the full enjoyment of its cigarettes.

That's why Philip Morris has Allis-Chalmers Metal Detectors in its production line. The presence of stray metal is immediately detected . . . the tobacco containing it instantaneously rejected.

The Metal Detector can be used on any kind of non-metallic material . . . food, plastics, tobacco, rubber, etc. Manufacturers have found it insurance against machinery damage and loss of production time, as well as protection for customer good will.

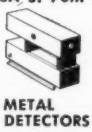
It will spot magnetic or non-magnetic metal particles as small as .039 in. in diameter, regardless of how deeply imbedded they are. Standard units available in 2, 4, 7, and 12 inch apertures.

ALLIS-CHALMERS

ELECTRONIC HEATERS AND METAL DETECTORS FOR INDUSTRY

The Metal Detector was developed by RCA Victor. Now, however, RCA's high frequency heating and metal detection equipment, its sales and service, has been added to the Allis-Chalmers line. Thus, the combined electronic experience of two great companies is available to meet the needs of industry.

ALLIS-CHALMERS MFG. CO.
1163A S. 70th St., Milwaukee 1, Wis.



☐ **METAL DETECTORS**
Protect product quality and machinery. 2, 4, 7, 12 in. apertures.

☐ **INDUCTION HEATERS**
Brazing, soldering, hardening, annealing. 1 through 200 kw.

☐ **DIELECTRIC HEATERS**
Wood, plastics, textiles, sand cores. 100 w through 125 kw.

Name.....

Company.....

Address.....

City.....State.....

A 2534

Put your product in the spotlight

with

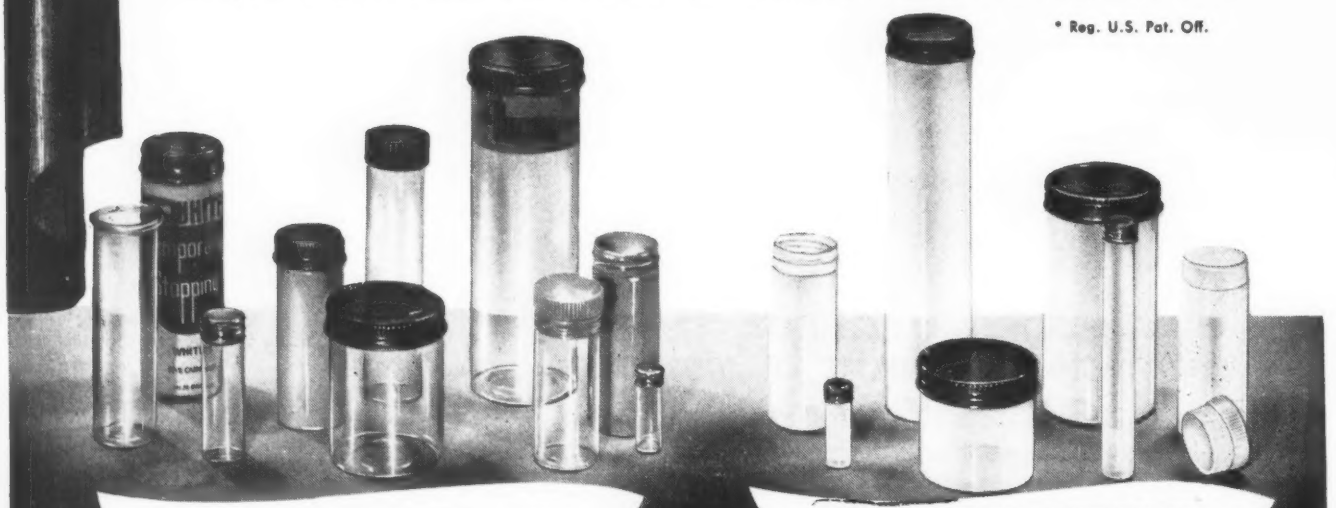
Clearsite* PLASTIC VIALS

RIGID POLYSTYRENE *and* FLEXIBLE POLYETHYLENE
– all stock sizes

It's like throwing a spotlight on your product — when you package it in eye-catching Clearsite vials! But eye-appeal is only one advantage of Clearsite rigid polystyrene and flexible polyethylene vials — just note the specifications below! All colors. All stock sizes.

Special sizes and shapes to order. Straight, threaded, beaded necks. Streamlined for easy removal of product. Also produced in other thermoplastics. Polyethylene and all other types of closures. Write Celluplastic Corporation today for samples, literature, information.

* Reg. U.S. Pat. Off.



CLEARSITE RIGID POLYSTYRENE VIALS

Sparkling, crystal-clear and gem-like colors. 70% lighter than glass. Shatterproof. Transparent, translucent and opaque. Tasteless. Odorless. Not affected by alkalis, alcohols or weak acids. Permanent label imprinted during manufacture.

CLEARSITE FLEXIBLE POLYETHYLENE VIALS

"Squeezable." All colors. 75% lighter than glass. Non-breakable. Translucent and opaque. Tasteless. Odorless. Not affected by alkalis, acids or alcohols—can be printed in 1, 2, 3 and 4 colors.

"AMERICA'S #1 SOURCE FOR PLASTIC CONTAINERS"

Celluplastic Corporation

Established 1919

34 Ave. L, Newark 5, New Jersey • New York Office: 630 Fifth Ave., Circle 6-2425 • Representatives in principal cities.

SINCE 1905, FOR 43 YEARS, OLD DOMINION HAS BEEN PRODUCING *QUALITY* PACKAGES

QUALITY...The Lasting Symbol

QUALITY is the lasting symbol of performance built into every package by the craftsmen of OLD DOMINION. The unseen ingredient of better packages, it largely accounts for the mutual loyalty of Old Dominion and its clients. Throughout the years we have enjoyed to the fullest this loyalty and guarded it zealously through fair dealing, quick service and mutual confidence.

For quality packaging, consult Old Dominion . . . for generations, designers and manufacturing craftsmen of better boxes. Write today to Dept. 104 for an illustrated booklet showing Old Dominion's quality packages.

OLD DOMINION *Box Company Inc.*

PLANTS LOCATED THROUGHOUT THE SOUTH

CHARLOTTE, N. CAROLINA

THE SOUTHERN BOX MAKER WITH A NATIONAL REPUTATION

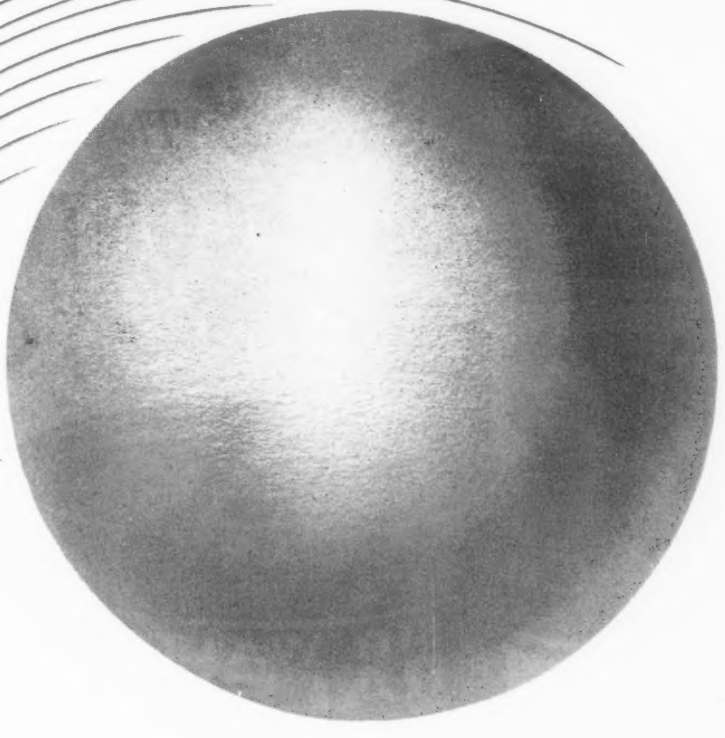
NO matter the product, we would like to talk over your packaging plans with you. Heekin Metal Lithography has been famous since 1901. That's a pretty good recommendation in any business. Let Heekin cans sell for you.

HEEKIN
LITHOGRAPHED CANS

Expert Color Reproduction on Metal Since 1901

THE HEEKIN CAN CO. CINCINNATI 2, OHIO

ALL SORTS OF LITHOGRAPHED CANS FOR ALL SORTS OF PURPOSES



PROMOTIONS

Successful promotions don't just happen. They represent the happy formula of unusual creative ability and well-timed, skillful production. You deserve a B & P. promotion -- They really pay off!

BROOKS & PORTER INC. • 304 HUDSON ST. NEW YORK 13, N. Y.

PACKAGING AND DISPLAY SPECIALISTS FOR OVER FIFTY YEARS

Three examples of

CONTINENTAL "CAN-DO"

These tobacco cans are more than packages. They're first rate brand salesmen, too. On the retailer's shelf or counter, their superior lithography shouts for attention.

Once sold, they keep right on selling. They're easy to open, easy to close. By keeping their contents fresh and convenient to use they win friends for repeat sales.

A de luxe package like one of these is a Continental specialty. We've been working with the tobacco industry since way back when, and we know how to construct and lithograph cans that are right for tobacco. If you are now making plans for the future, why not get in touch with a Continental representative. We'll be glad to talk things over with you.

CONTINENTAL CAN COMPANY

100 EAST 42nd STREET NEW YORK 17, N. Y.

NEWS!

RESULTS PLEASE ALL PARTIES.

PACKERS, DEALERS AND CONSUMERS ARE

ALL PLEASED WITH THE PERFORMANCE

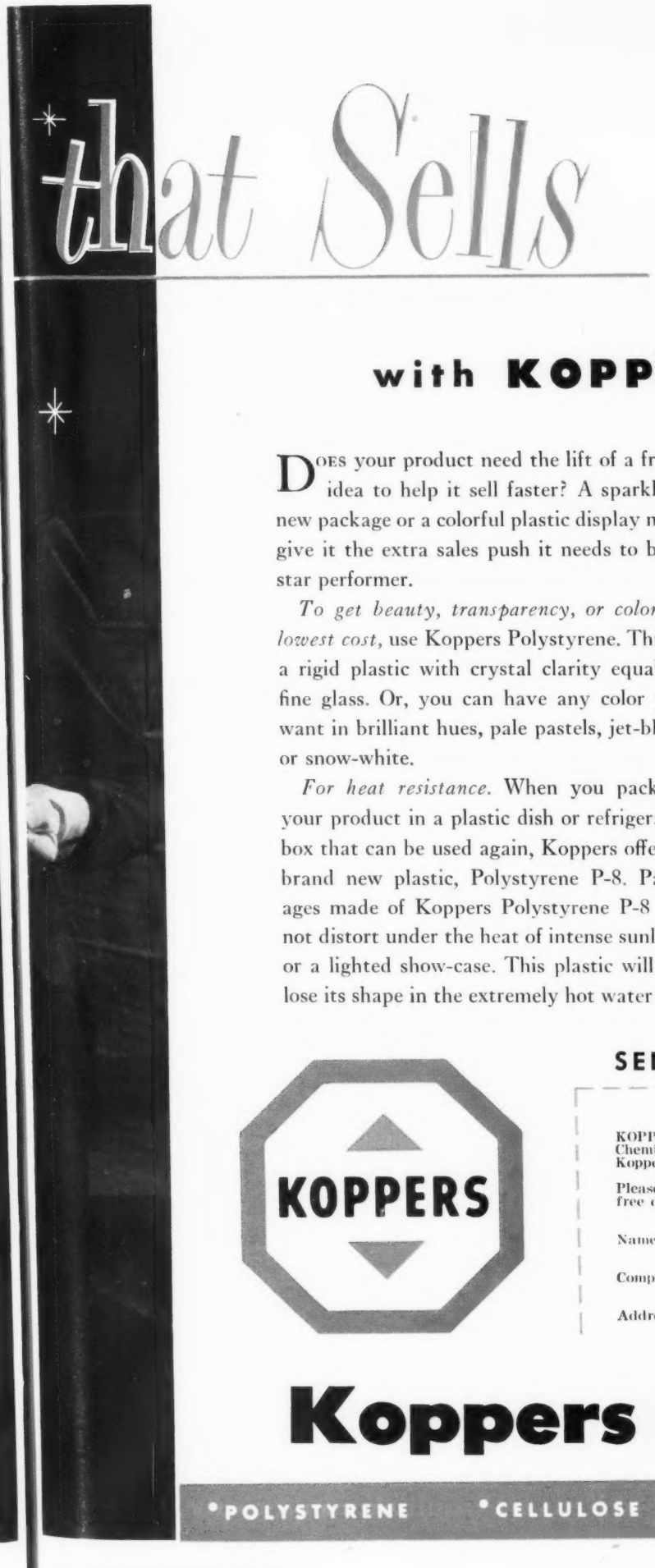
OF H-A GLASS CONTAINERS.

Designed for sales and protection, their efficiency on the packing line, easy shipping and handling make them a package worthy of your product.

HAZEL-ATLAS GLASS CO.

WHEELING, WEST VIRGINIA

Shoes for gifts. Nobody thinks of giving shoes for gifts—ordinarily. But these little plastic shoes in a transparent box have tremendous attention-getting value. With a gift certificate, they have proved to be powerful shoe salesmen. The shoes come in a variety of colors. Both box and shoes are molded of Koppers Polystyrene by the Campro Co., Cambridge, Ohio.



that Sells

with KOPPERS PLASTICS

DOES your product need the lift of a fresh idea to help it sell faster? A sparkling new package or a colorful plastic display may give it the extra sales push it needs to be a star performer.

To get beauty, transparency, or color at lowest cost, use Koppers Polystyrene. This is a rigid plastic with crystal clarity equal to fine glass. Or, you can have any color you want in brilliant hues, pale pastels, jet-black or snow-white.

For heat resistance. When you package your product in a plastic dish or refrigerator box that can be used again, Koppers offers a brand new plastic, Polystyrene P-8. Packages made of Koppers Polystyrene P-8 will not distort under the heat of intense sunlight or a lighted show-case. This plastic will not lose its shape in the extremely hot water of a household automatic dishwashing machine—yet it costs no more than regular polystyrene—the lowest in price of all thermoplastics.

For tough, flexible or resilient molded containers in transparent or a wide variety of colors Koppers offers Cellulose Acetate and for special applications Ethyl Cellulose. These plastics have high resistance to breakage and are light in weight.

FREE TRIAL OFFER. Koppers will gladly send a trial drum of Polystyrene pellets to any commercial molder in United States or Canada to show him how easy and economical it is to use this remarkable plastic. Mail the coupon for complete information.

KOPPERS COMPANY, INC.
Chemical Division
Koppers Building, Pittsburgh 19, Pa.

KOPPERS

SEND THE COUPON

KOPPERS COMPANY, INC.
Chemical Division, Dept. MPG11
Koppers Building, Pittsburgh 19, Pa.

Please send me ☐ your new booklet on Koppers Plastics ☐ Tell me about free offer to commercial molders in United States and Canada.

Name ..... Title .....

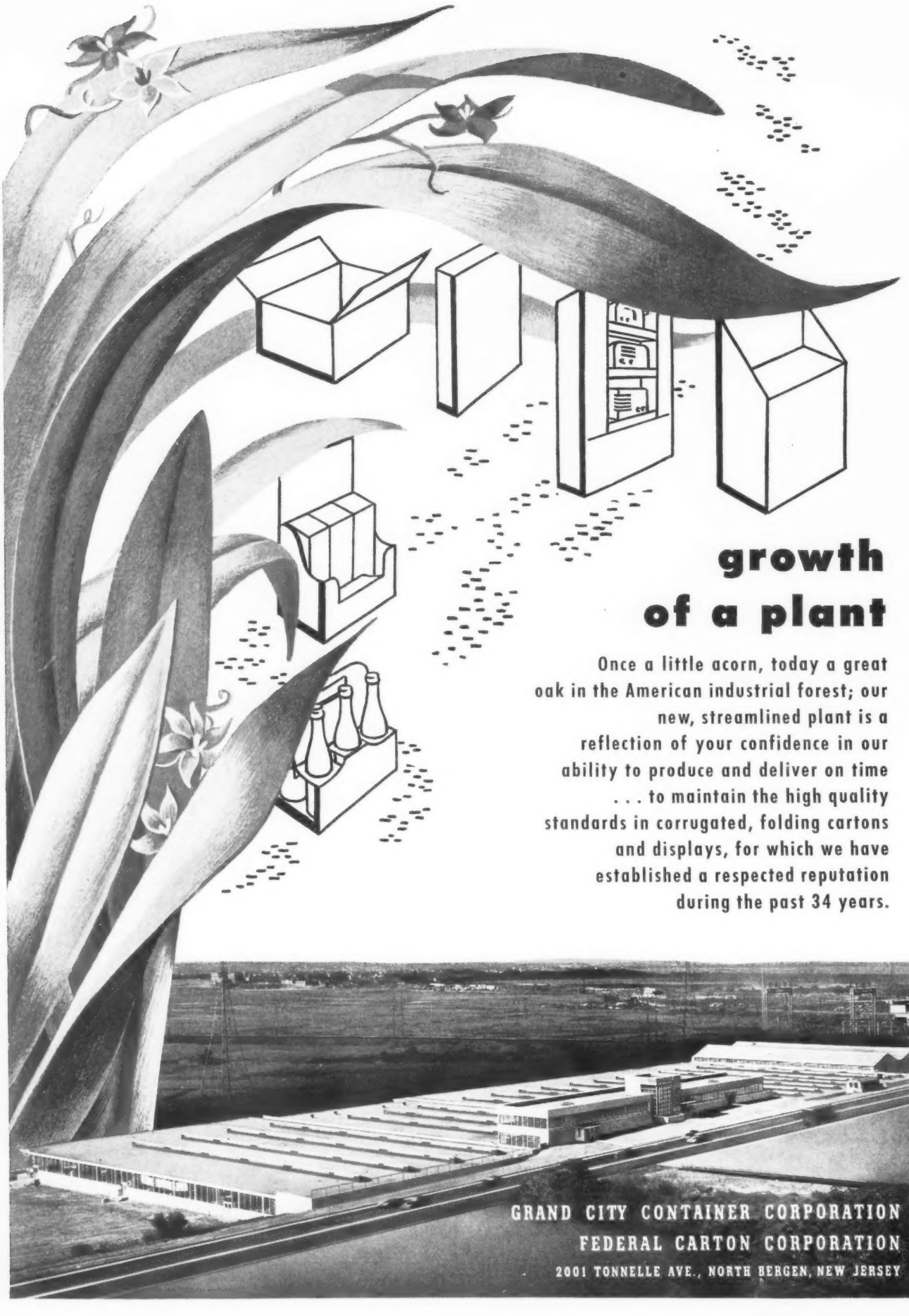
Company .....

Address .....

This offer expires December 1, 1948

Koppers Plastics

•POLYSTYRENE •CELLULOSE ACETATE •ETHYL CELLULOSE



growth of a plant

Once a little acorn, today a great oak in the American industrial forest; our new, streamlined plant is a reflection of your confidence in our ability to produce and deliver on time . . . to maintain the high quality standards in corrugated, folding cartons and displays, for which we have established a respected reputation during the past 34 years.

GRAND CITY CONTAINER CORPORATION
FEDERAL CARTON CORPORATION
2001 TONNELLE AVE., NORTH BERGEN, NEW JERSEY

These outstanding foil bags printed by Southern Packaging Corp., High Point, North Carolina.

Remember the name Foil-Brite when printing foil stock for packaging or for decorative purposes.

Foil-Brite inks are available in a full range of colors and can be tailor-made to meet your specific condition.

Foil-Brite inks can be furnished in opaque or transparent colors which print sharp at high speeds and give excellent adhesion and scratch resistance.

To insure perfection of printing on foil, specify BBD Foil-Brite inks.

Distributors

Manton Brothers
Elizabeth Street, Toronto, Canada

A. M. Bojanower
2785 E. Slauson St., Los Angeles 11, Cal.

Export Division

McLaurin-Jones Co.
150 Nassau Street
New York 7, N. Y.

Associated Manufacturing Plants

Bensing Brothers & Deeney, Inc., in Mass.
81 Albion Street, Wakefield, Mass.

Bensing Brothers & Deeney, Inc., in Ill.
2358 N. Seeley Avenue, Chicago 47, Ill.

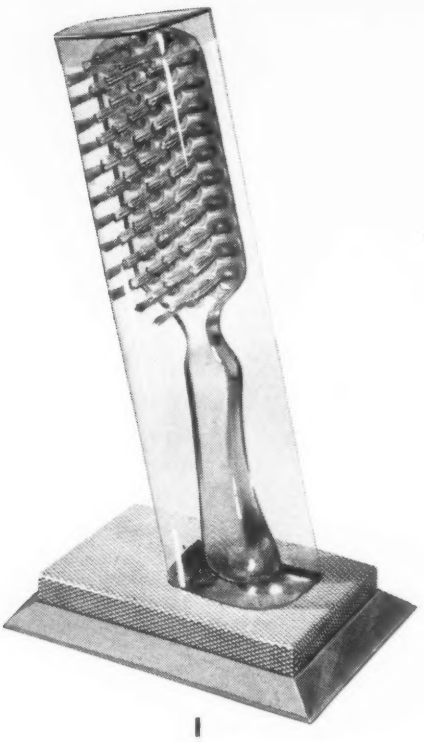
Largest Manufacturers of Aniline Ink in U. S. A.

Bensing Bros. & Deeney

HOME OFFICE AND PLANT 401 N. BROAD STREET, PHILADELPHIA 8, PA.

"THE BETTER THE PRODUCT THE MORE IMPORTANT THE PACKAGE"

if you want to *PUSH* your product...



Acme's Ideaful Packaging gives your Product the Customer-Attraction that Makes Quick Sales

give it PULL

TRANSPARENT PACKAGING
INTRIGUING SET-UP BOXES
SPECIALIZED PACKAGING
CREATIVE FOLDING CARTONS
UNUSUAL MERCHANDISE COUNTER DISPLAYS

Creators
Designers
Manufacturers
acme
PAPER BOX COMPANY STATE AT SIXTIETH STREET • CHICAGO 21, ILLINOIS

O-I lithographed closures dress up your package . . . attract customers' eyes.

TOPS that protect... and speed your sales!

YOUR PRODUCT and sales are *doubly* protected by O-I lithographed metal closures—

Freshness and flavor are sealed in by precision construction and by use of the exactly right liner material to protect your product . . .

You cash in on extra sales by putting a hard-hitting sales message in the free advertising space O-I closures provide!

Expert design-engineers are ready to suggest brilliant *lithographed* closure designs that will make your product stand out on retail shelves . . . and in the home!

Colorful O-I closures stimulate impulse sales... build your brand's identity . . . bring profitable repeat business. Complete range of sizes and shapes . . . prompt shipment.

CLOSURE DIVISION — OWENS-ILLINOIS GLASS COMPANY

TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

The PALMER GENERAL PURPOSE *Continuous Motion* CARTON FORMER, applying non-reciprocating principles to your carton forming operation, provides squarer cartons, higher speed, quicker convertibility, 9 times the sealing time, less waste, greater efficiency. Non-reciprocating methods insure an uninterrupted flow of cartons to your packaging lines.

No user can remain competitive with cartoning machinery which does not provide the capacity and money saving features of this revolutionary PALMER equipment.

PALMER
CHICAGO

Our engineers welcome your requests to discuss the cost reducing ability of PALMER Continuous Motion non-reciprocating Carton Forming Machines as applied to your own specific requirements. Write, wire or call us.

FRANK D. PALMER, Inc.

528 N. WESTERN AVE., CHICAGO 12
CH 3-3344

60 E. 42ND ST., NEW YORK 17
VA 6-4185, 6

PACKAGING MACHINERY MANUFACTURERS

How to get on *this* shelf

Look inside the medicine cabinet of practically any home—you'll see a product packaged in an Alcoa Tube. Reasons: aluminum is non-toxic, safe for dentifrices and shaving creams . . . glistening Alcoa Tubes are smart looking, easy to use, loaded with sales appeal.

Let's give it a "go" . . . you send us a sample of your product, we will furnish full information to help you decide about Alcoa Aluminum Tubes. There's no cost or obligation on your part, and you stand to gain some valuable information. Write to ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania.

Package It in Alcoa Aluminum Tubes

NON-TOXIC
SMART APPEARANCE
EASY DISPENSABILITY
GOOD ECONOMY
GREATER STRENGTH
LIGHT WEIGHT

ALCOA

How the Kidder Aniliner Improves Printing Quality While Reducing Costs

It's Rugged-Fast-Easily Controlled-Makes a Perfect "Kiss"

Massively built . . . yet with its great weight properly machined, distributed and balanced . . . the Aniliner runs vibration-free at *high speeds*. And its simple, accessible controls regulate so closely as to achieve the perfect "Kiss" impression that is a necessity for fine aniline printing.

This sturdy American design, created out of the need for such a press, can run continuously at speeds that promise high quality printing, low cost and low maintenance.

KIDDER PRESS COMPANY, INC.

DOVER, NEW HAMPSHIRE

A. E. MARCONETTI
11 W. 42nd St., New York 18, New York

MACHINERY SERVICE CO.
P. O. Box 33, Los Angeles 11, California

You can see here how the heavy 4-inch frames and the strength and rigidity of rolls and journals emphasize the ruggedness of the Aniliner.

The Aniliner is a "Three-Point Press"

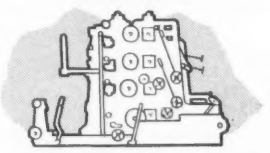
Kidder Three-Point Presses are so-called because they fulfill the three major requirements for perfect printing. See how these features win for the Aniliner a place in this famous family.

CONTROL OVER THE PAPER • Mill roll and paper in-feed control • Web on continuous arc travels paper steadily • Outfeed and Constant Tension Rewind.

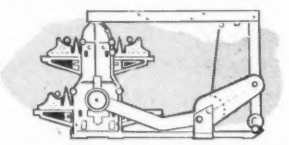
PROPER DISTRIBUTION OF INK • Non-Splash Fountains • Deflection-free Fountain Rolls • Accurate setting of fountain and inking roller contact • Precision adjustment of inking roll against plates • Pressure releases during stops • Inking rolls rotate independently during stops.

ACCURACY OF THE IMPRESSION • Rugged concentric plate and impression rolls • Precision adjustment of plate-to-web contact • Plate Cylinders lift during shutdown without upsetting adjustment or register.

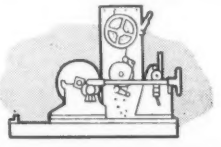
The Kidder Aniliner Bulletin will show you opportunities for high-quality, low-cost Aniline Printing, and describes in detail the latest improvements in these presses. Write for it — no obligation of course.



MULTI-COLOR LETTER PRESSES
for waxed paper, box wrappers, etc., rewound or sheet-delivered — up to 72 inches.



"ANILINER" and "CELLOPRINTER" MULTI-COLOR PRESSES
for decorative papers, cellophane, glassine, etc., — up to 65 inches.



SLITTERS AND REWINDERS
for paper mills, finishing rooms, and small-roll, high-speed slitting — up to 115 inches.

Cannon sets go places packaged in *COLOR*

box wraps by...

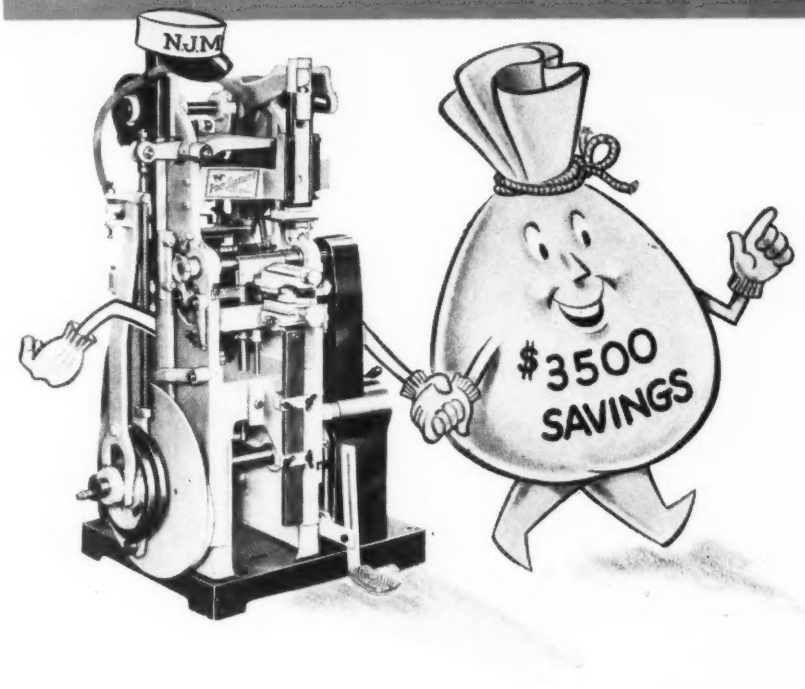
LUTZ & SHEINKMAN

Color Lithographers

421 HUDSON STREET, NEW YORK 14, N. Y.

For Lithography at its Best . . . Try L & S

A LABELING METHOD that brings immediate CASH savings —



plus PERFECT Labeling Performance

Put ONE girl on your **PONY LABELRITE*** *that's all you need!* Never mind *extras* to readjust labels, or to wipe off excess adhesive . . . you don't need such costly extra help when you label by LABELRITE.

Saving TWO extra girls usually means approximately $70.00 per week—$3500. per year. *Small wonder* why so many food, drug and cosmetic manufacturers are changing over to the PONY LABELRITE method . . . where everything required in mechanical labeling is done by machine!

VACUUM STRAIGHT-LINE LABEL DELIVERY
makes perfect register assured.

TWIN-ROLLER, *MICRO*-GLUE ADJUSTMENT
prevents excess glue.

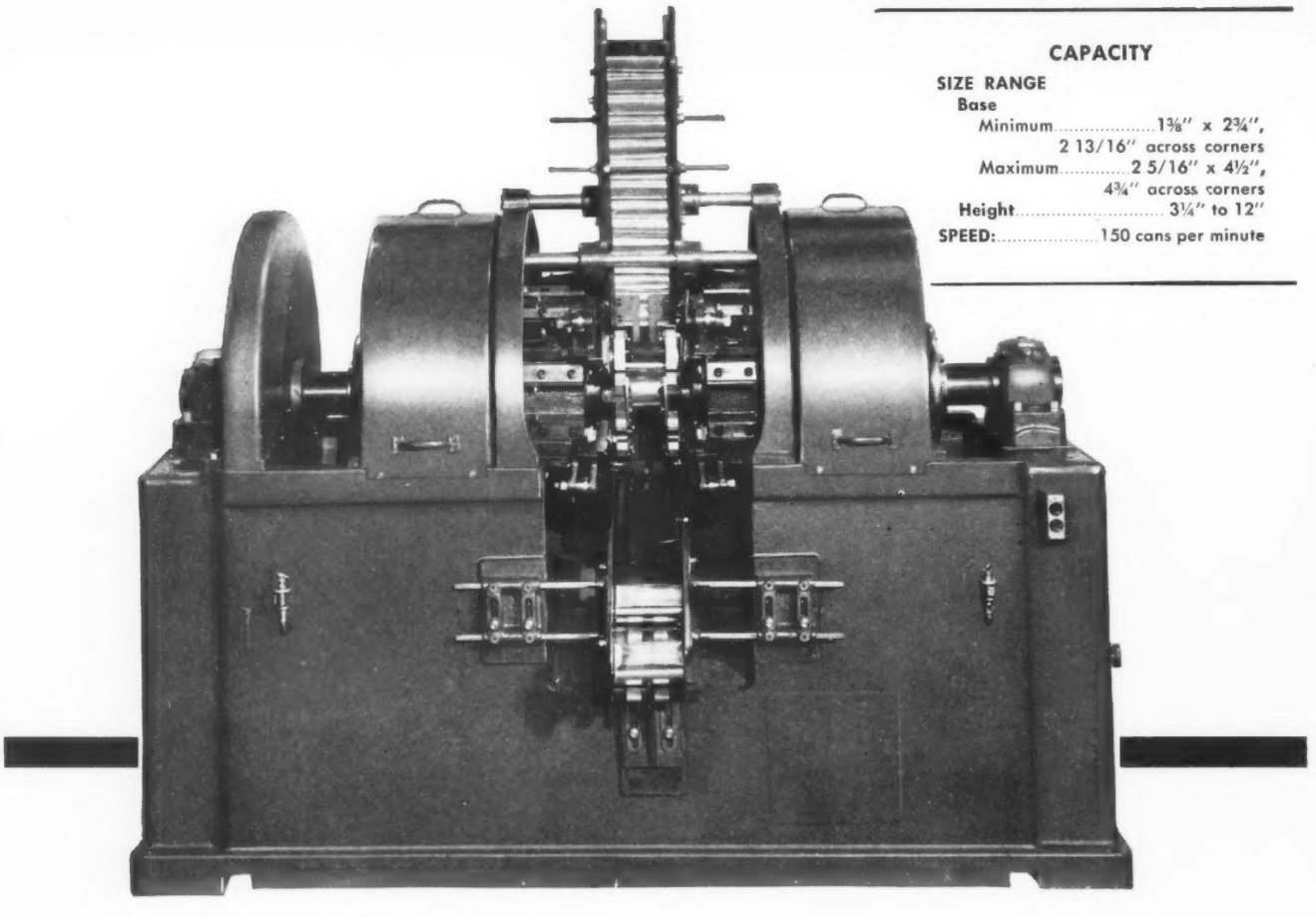
FULL SURFACE GLUING
eliminates blisters and loose edges.

Colgate-Palmolive-Peet Co. has 18 Pony Labelrites. (note eccentric shape of label—which is nevertheless perfectly registered).

503

NEW JERSEY MACHINE
Corporation
1510 WILLOW AVE. • HOBOKEN, N. J.
Chicago Office: 325 W. Huron Street
Cincinnati Office: 1701 Carew Tower
Los Angeles Office: 2500 W. 6th St.

*Reg. U. S. Pat. Off.



CAPACITY

SIZE RANGE
Base
Minimum.....1⅜" x 2¾", 2 13/16" across corners
Maximum.....2 5/16" x 4½", 4¾" across corners
Height.....3¼" to 12"
SPEED:.....150 cans per minute

The first fully automatic high-speed flanger for square or rectangular cans

This is a rotary machine — consisting of five stations — which die-flanges both ends of the can simultaneously, producing an even right-angle flange on corners and sides of the can without distorting the can body.

Machine is completely self-contained with individual motor drive. A 3-horsepower motor is mounted in the base which is full-skirted in design, making it exceptionally rigid. The heavy shaft, mounted in roller bearings, is itself very rigid — thus preventing any deflection of flanging heads when taking full flanging load.

This is a smooth operating machine for continuous high production. Designed by Mr. Peter Kruse, and built by Lima-Hamilton's Hooven, Owens, Rentschler Co. Division at Hamilton, Ohio.

* * *

Machine No. 406 is a one-quart flanger. A similar flanger, Hamilton-Kruse No. 304, is made for one-half, gallon, and two gallon cans.

For complete information and specifications write to Roland H. Johnson, Sales Manager, Can Machinery Department, Lima-Hamilton Corporation, 60 East 42nd Street, New York 17, New York.

Chicago Sales Office: 400 W. Madison St., Daily News Bldg., Chicago 6, Ill.

LIMA HAMILTON CORPORATION

DIVISIONS: *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co. *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division.

PRINCIPAL PRODUCTS: Hamilton-Kruse automatic can-making machinery; Hamilton heavy metal stamping presses; Niles heavy machine tools; Hamilton diesel and steam engines; Special heavy machinery; Heavy iron castings; Weldments; Locomotives; Cranes and shovels.

TO WIN SALES...

win-over Women!

YOUR SALES STRATEGY (built on sound *masculine* logic) may be extremely effective in selling *male dealers* —and yet fall far short of maximum effectiveness in selling *75% of consumers who are women!*

That's why leading national merchandisers conduct nationwide surveys to learn how WOMEN buy.

They've learned that *women* make 75% of their decisions, as to *what brand* to buy, at the point-of-sale—acting on impulse! In the retail stores where women react to what they SEE—*the appearance of your package* is a *decisive* sales factor.

HOW TO MAKE YOUR PACKAGE *Sell!*

Let Ritchie help you develop (at low unit cost) a package that meets the increasing challenge of self-service retailing. A practical, production-planned package that instantly identifies, fully protects and conveniently dispenses your product. Easy to fill or pack—to handle—to stack or display. An attractive, eye-stopping SELLING package.

TERRY MOORE, bright new star of **"THE RETURN OF OCTOBER,"** a Columbia Technicolor production. • As the motion picture industry capitalizes on *good looks*, keen merchandisers capitalize on the selling power of an *attractive* package.

Never the Power

W. C. Ritchie and COMPANY
8840 Baltimore Avenue • Chicago 17
★ SET-UP PAPER BOXES
★ FIBRE CANS
★ TRANSPARENT PACKAGES
TRADE MARK

Underestimate of the Package!

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • CLEVELAND • CHARLOTTE • JACKSONVILLE

THERMALL Does It Again...!

Electronic HEAT SEALING SIMPLIFIED

Simplicity of construction and design is the secret of THERMALL'S Model No. 12 outstanding performance in the sealing of plastic materials.

Here is a "PACKAGED" electronic heat-sealing unit, only 14" wide, 23" deep and 28" high, capable of making either a single seal 12" long x ½" wide or two separate seals each 4" long x ⅛" wide of either rigid or flexible plastic sheeting materials.

In the THERMALL Model No. 12, high frequency power is generated right where it is needed, at the load.

Interchangeable electrodes are available for sealing plastic folders, envelopes, pouches, billfolds, and all other flat articles, as well as rectangular plastic boxes and covers, sealing one or two corners simultaneously, (special 4 corner machine available) and also cylindrical tubes and containers in a wide range of sizes.

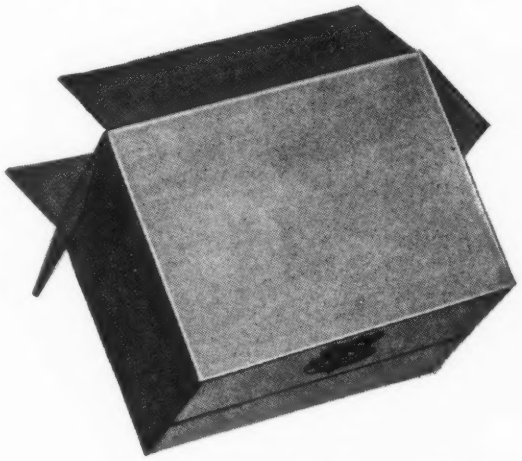
Let THERMALL solve your sealing problems, from the simplest to the most complicated.

For full information on the advantages and uses of the THERMALL Model No. 12, or for sample seals or demonstration, write . . .

W. T. LA ROSE & ASSOCIATES, INC.
TROY, NEW YORK, U.S.A.

You buy with confidence when you see the Pedigree . . . .

and in Boxes!



CONFIDENCE IN *Quality*
CONFIDENCE IN *Service*
CONFIDENCE IN *Fair Price*

THE WEIMARANER — a rare and selective breed of dog originated by the nobles in the Court of Weimar, Germany, more than 135 years ago. Marvelous all-around hunting dogs and retrievers.

YES, Union corrugated containers are pedigreed stock. They are made from 100% virgin Kraft, in the largest pulp-to-container plant in the world. Every production step is checked by a single management. And four modern box plants, strategically located, are ready to service rush orders.

Since 1872 Union has been a leader in engineering, designing, and producing paper packaging. Ten years ago, Kraft container board was added to the line and in a short time Union became one of the nation's larger producers in this field, too.

Now Union container board is going into Union's own corrugated containers, identified by the famous Union shield. This shield on a corrugated container is a mark of *consistent* quality, *consistent* service, and *always* fair price.

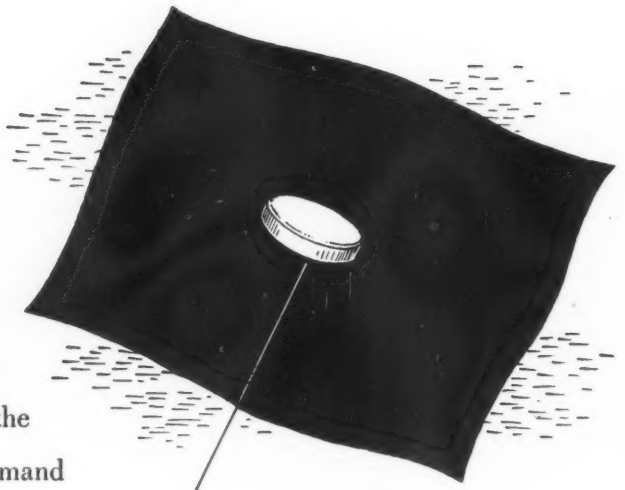
UNION *Corrugated Containers*

UNION BAG & *Paper Corporation*

Principal Offices: WOOLWORTH BLDG., NEW YORK 7, N. Y.

***Corrugated Container Plants*: SAVANNAH, GA. • CHICAGO, ILL. • TRENTON, N. J. • JAMESTOWN, N. C. .Highland Container Co., Inc.**

GIVE IT EVERYTHING

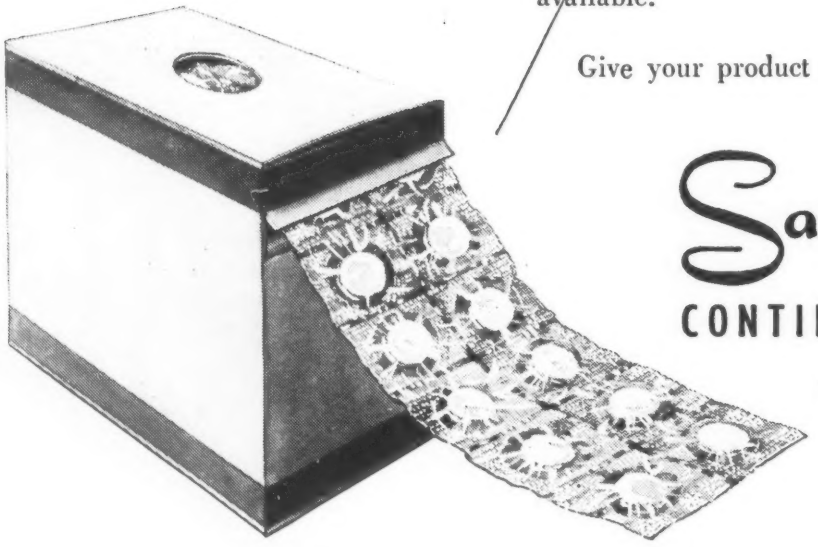


YOU ARE CONSCIOUS of the changes in the market—you are spending valuable time analyzing the new situation—you have assigned your top talent to the development of a superior product to meet the demand of the growing buyer's market.

Now that this fine product is ready, give it everything. Give it a package which is attractive, unique, inherently useful and so economical as to really do something for you in this tight, competitive market.

The Sanitape-Sealtite Continuous Strip Package is an entirely new conception of the principle of unit-packaging—sealing the tablet in its own air-tight compartment, producing a continuous strip of tablets and layering them in an ingenious cardboard container, which is the most convenient dispensing package available.

Give your product new sales power with the



Sanitape-Sealtite

CONTINUOUS STRIP PACKAGE

We shall be glad to give you complete information and details pertinent to your situation.

IVERS-LEE COMPANY · 215 CENTRAL AVE · NEWARK · N. J.

UNIT PACKAGING

Sanitape-Sealtite is a unique method for packaging pills, tablets, capsules, creams and powders, by which each unit or unit-dose is sealed in its own air-tight compartment—assuring complete protection and maintained efficacy. Packages, machines and methods fully covered by U. S. and Foreign Patents and Patents Pending.

Out of this World

...BUT DOWN TO EARTH

With compelling interpretation, Warnercraft packaging emphasizes the finest qualities of your product. Warnercraftsmen, long experienced specialists in economical packaging, impart to your product that priceless distinction which is "out of this world . . . but down to earth."

We'd like to tell you more about Warnercraftsmanship. A letter will bring our new illustrated packaging handbook.

W
WARNERCRAFT
Finest Name in Packaging
THE WARNER BROTHERS COMPANY

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.
Main Office and Factory: 325 Lafayette Street, Bridgeport 1, Conn. • New York Sales Office: 200 Madison Avenue, New York 16, N. Y.

Peaks of efficiency...

THE *Anchorvac D Cap* is the most efficient, most dependable tamper-proof seal known for foods packed in tumblers, jars and bottles. Adaptable for vacuum packing, sterilizing, processing, hot or cold packing, it is completely airtight and leakproof and provides the fullest protection against air, moisture or bacterial action. Foot, semi-automatic and automatic type *Anchor* sealing machines are available at nominal rentals to apply the cap at speeds ranging from 20 to 125 per minute.

The world's largest and most powerful telescope atop Mt. Palomar is the Peak of Efficiency in the study of the universe.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO

IT'S *Anchorvac** *D Caps*
FOR THE PEAK OF EFFICIENCY

*Trade Mark

It's *Glass* for merchandising...

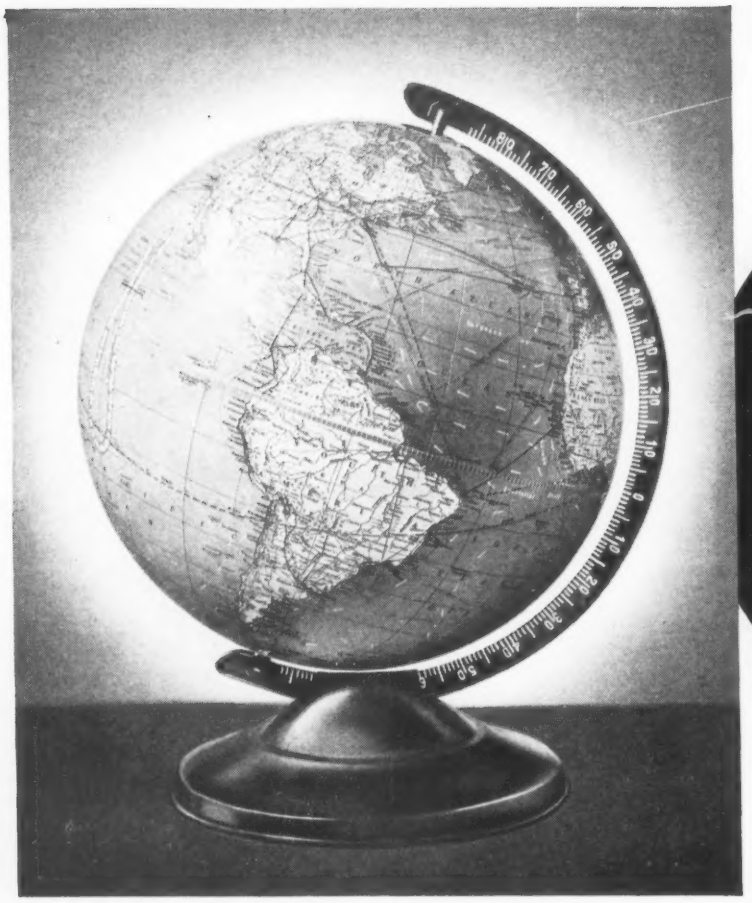
WHEN you develop a merchandising plan or introduce a new product, you want a package that attracts attention and displays the contents effectively. The introduction of "instant" coffee was made easily and successfully in glass jars. Now soluble tea is being effectively packaged in glass to introduce it to the buying public. *Anchorglass* containers, for whatever food products you pack, will move them . . . create impulse sales . . . increase demand because they get preferred display position. They're merchandised by the retailer.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO

AND IT'S Anchorglass* FOR MODERN MERCHANDISING

*Reg U S Pat Off



"It must STAY round to sell well"

"We make a wide and complete line of globes, among them our P212, the most widely sold globe in America today", writes L. I. Replogle, President of Replogle Globes, Inc., Chicago, in a letter to his Arabol Adhesives Representative. "Naturally, a globe such as this one must keep its round shape throughout a long service life — if it's going to stay a best-seller. All-steel globe balls help to do this, and so do your Arabol Adhesives which we use in all our models. Because we have learned from experience that your product is uniformly efficient, we can be sure that bunching and bulging will not mar the globe's smooth spherical surface."

Whether your use for adhesives is somewhat specialized as in this case, or whether it's relatively standard as in making paper boxes, carton sealing, case sealing, paper converting and bookbinding, it will pay you to make the acquaintance of your Arabol Representative. He puts at your disposal the collective experience of over 60 years of specialization. He draws upon the resources of not one, but three Laboratories, containing more than 10,000 adhesives formulas. See him when he calls.

THE ARABOL MANUFACTURING CO.

Executive Offices: 110 East 42nd St., New York 17, N. Y.
CHICAGO—54th Ave. & 18th St. • SAN FRANCISCO—1950 16th St.
ST. LOUIS—2500 Texas Avenue • LOS ANGELES—2262 East 37th St.
Branches in Principal Cities
Factories in Brooklyn, Cicero, Los Angeles San Francisco, St. Louis

PIONEERING *in the making of* ADHESIVES THAT WORK

Adhesives?... **ARABOL!**

UNIFORMITY

Perfection repeated—
repeated a million times over.

CHICAGO CARTON COMPANY

CHICAGO CARTON COMPANY

4200 SOUTH CRAWFORD AVENUE • CHICAGO 32, ILLINOIS

PRESERVE THE SA* OF YOUR PACKAGES with PACKOMATIC

Installation view of PACKOMATIC, Model D Top & Bottom Shipping Case Gluer-Sealer handling "trend" packages.

* Shelf Appeal is the "SA" of packaged products—that certain something draws the eye of the consumer to its purchase-persuading personality on the dealers' shelf.

Convinced of the importance of shelf appeal of its package, Purex Corporation, Ltd., turned to PACKOMATIC for packaging machinery with which to speed its new detergent "trend" to market with its "buy me" look intact.

To glue and seal its corrugated shipping cases safely and securely against the rigors of modern transportation, Purex uses a PACKOMATIC Model D shipping case gluing and compression sealing machine.

Whether you contemplate a new packaged product or the modernizing of your packaging line, PACKOMATIC'S experience with such outstanding package goods manufacturers as Purex can help you. Your inquiry incurs no obligation to buy. J. L. Ferguson Company, Route 52 at Republic Avenue, Joliet, Illinois.

TYPICAL PACKOMATIC EQUIPMENT

Paper Shipping Case Sealers

Case Imprinters

Case Dating and Coding Devices

Carton Gluers and Sealers

Carton Making Machines

Automatic Carton Formers & Feeders

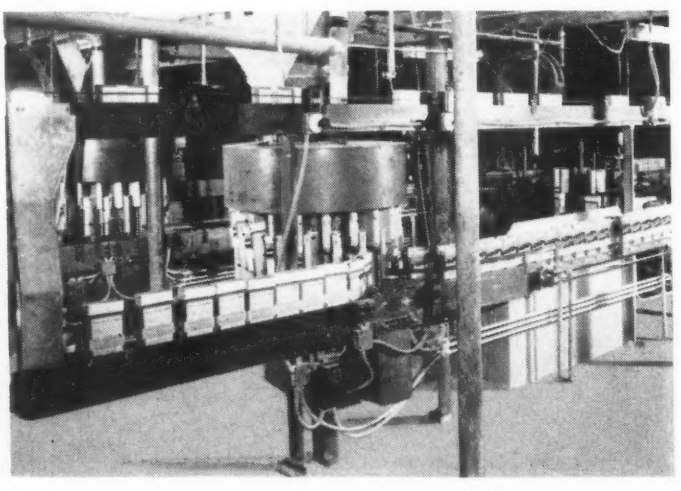
Auger Packers and Weighers

Net Weight Scales

Paper Can Tube Cutters, Gluers

Shrinkers, Cappers & Setup Conveyors

Purex uses PACKOMATIC'S telescoping volumetric fillers (right) synchronized with PACKOMATIC'S top and bottom carton sealing machines and automatic carton feed.



PACKOMATIC

T.M. REG. U.S. PAT. OFF.

PACKAGING MACHINERY

J.L. FERGUSON CO. JOLIET, ILL.

Chicago • New York • Boston • Philadelphia
Baltimore • Cleveland • Denver • New Orleans
San Francisco • Los Angeles • Seattle • Portland
Tampa • Dallas

YOUR PRODUCT is its own best advertisement in a SHOWBOX or SHOWBAG

SHOWBOXES of rigid acetate and SHOWBAGS of flexible polythene provide a sparkling setting to catch the consumer's eye. This ideal combination of protection and visibility lets product quality speak for itself . . . stimulates impulse sales.

SHOWBAGS for sweaters and blouses keep shelf and display stock clean and attractive. Customers like them for protecting fine things at home. SHOWBAGS can be beautifully imprinted in colors, so that their re-use values continues to "sell" your name for many months.

SHOWBAGS *add eye-appeal to sweater display in Gutman's Department Store in Clayton, residential suburb of St. Louis, Mo.*

Write for samples and prices on SHOWBOXES and SHOWBAGS

Plastics Division

CENTRAL STATES PAPER & BAG CO.

5221 NATURAL BRIDGE SAINT LOUIS 15, MISSOURI

Chicago • Los Angeles • New York • Philadelphia • Detroit • Cincinnati • Cleveland • Kansas City • Denver

PACK IT... PROTECT IT... SELL IT with TROJAN!

Trojan FOIL

For the Ultimate in Packaging Appeal

Trojan Foil has the sparkling, high-quality eye-appeal that gives any package more interest, more color, more *sell!* Trojan Foils, laminated to paper, board or cloth, are available in a range of attractive colors for many different packaging uses.

Trojan LAMINATED SPECIALTIES

For the Best in Protective Wrappings

Trojan pliofilm, cellophane and other protective laminations and Trojan special heat seal, grease-proof protective coatings guarantee moisture-free, dust-proof protection for packaged goods. Trojan protective papers are widely used and approved by the packaging industry, converters and processors and frozen food packers.

Trojan FOIL LABEL AND MOUNTED PAPERS

For Eye-Catching Sales Messages

Trojan Foil Label Papers and Trojan Foil Mounted Materials are specially made for the graphic arts industry. These colorful, decorative papers are effectively used for direct-mail pieces, financial reports and many other distinctive printing applications.

For more information and samples of Trojan Foil and Laminated Papers, write Dept. 29 today!

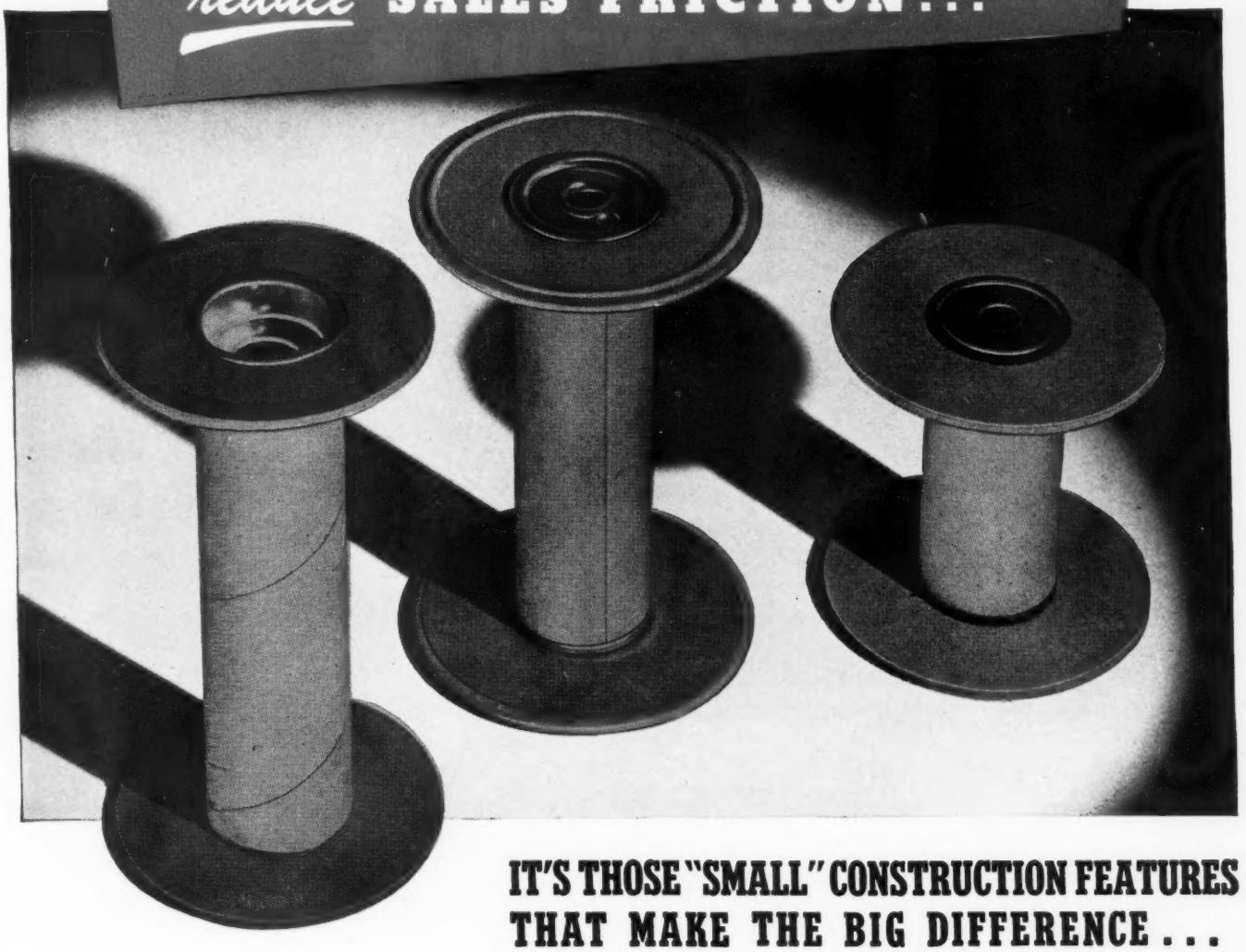
Trojan Foil ®

THE GUMMED PRODUCTS COMPANY

OFFICES • TROY, OHIO • MILLS

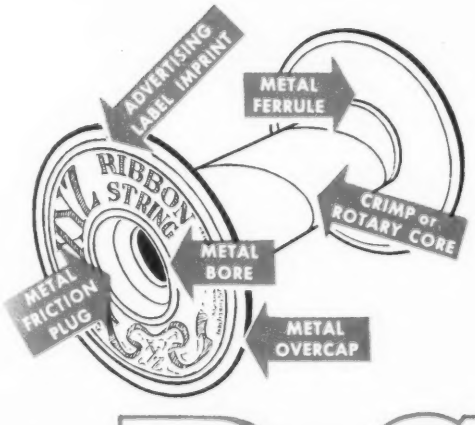
Chicago • Cincinnati • Cleveland • Los Angeles • New York • Philadelphia • St. Louis

SMOOTH RUNNING SPOOLS *reduce* SALES FRICTION...



IT'S THOSE "SMALL" CONSTRUCTION FEATURES THAT MAKE THE BIG DIFFERENCE . . .

A spool is a very important "package"—if it's smooth running in its dispenser and doesn't bind or drag—it's because special R. C. features have minimized friction . . . and that means less friction in sales because the product is giving better service in use.



R. C. Can Company offers a complete line of fibre spools with special construction features for ribbons, tapes and bandages. Made to special dimensions and to these stock dimensions—Head diameters: plain fibre —2½"—6", reinforced 3½"—4"—5"—6" Rotary or crimped fibre cores with or without metal ferrules: 1¼" and 2¼" ID. Core traverse: 2"—12". Friction plug bores with or without drive pin holes: Down to ⅜".

Call upon R. C. Can Co. for smooth running spools and cores.

R·C· CAN COMPANY

Manufacturers: fibre cans, tubes, spools and cores

THE STAMP OF QUALITY R.C.CAN CO. ST.LOUIS,MO. ®

BRANCH FACTORIES: ARLINGTON, TEX.; RITTMAN, O.; KANSAS CITY, MO.

SALES OFFICES:

C. E. DOBSON, 819 Carondelet Bldg., New Orleans 12, La.
S. W. SCOTT, 608 McCall Bldg., Memphis 3, Tenn.
CAN SUPPLY CO., 1709 W. 8th St., Los Angeles, 14, Calif.
C. J. TAUGHER, 1628 W. Wisconsin, Milwaukee 3, Wis.
R. J. WATERS, 516 Fifth Ave., New York, N. Y.
EDWIN F. DELINE CO., 224 W. Alameda, Denver 9, Colo.
W. L. BENNETT, 126 S. Third St., Minneapolis 1, Minn.
L. C. MORRIS CO., 1125 Spring St., N.W., Atlanta, Ga.
H. K. GRINSTEAD, 633 S. Fifth St., Louisville, Ky.
ALLIED PAPER SPECIALTY SALES
P. O. Box 1082, Pittsburgh 30, Penna.

HOW GOOD A SALESMAN IS YOUR CONTAINER?

A well-designed, distinctive container can be a real point-of-purchase salesman for your product. When you put National Can lithographed metal containers on your sales force, you step up the selling power of your product three ways. You gain eye appeal through proper colors . . . recognition through distinctive design . . . confidence through the long-lasting product protection that only metal can create. These are selling points with which National Can Containers have been helping to boost customers' sales for nearly fifty years.

Here is where National Can may be of decided aid to you. For when you call in National Can, you command a complete and closely cooperating lithography service, thoroughly equipped to act on problems of container design. Effective color selection, striking photography, careful composition of illustration, durable container construction — all these important sales factors are provided by trained and experienced National Can specialists.

To strengthen your product's sales potential, put sales-boosting National Can Containers to work for you. It's easy to do — for "National Can is as near as your telephone".

7041

NATIONAL CAN
CORPORATION

Executive Offices: 110 EAST 42nd STREET, NEW YORK 17, N. Y.

Sales Offices and Plants: Baltimore, Md. • Indianapolis, Ind. • Chicago, Ill. • Maspeth, N. Y. • Hamilton, Ohio • Canonsburg, Pa. • Boston, Mass. • St. Louis, Mo.

Farrington

the Packaging that Enhances as it Guards

To protect your product . . . and your sales position . . . put the distinctive showmanship of Farrington Packaging to work for you.

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TRADE MARK

Nashua's Portable Hand Activator

for "Stop and Go" and Problem LABELING!

Nashua gave you Pervenac (formerly called Thermo-Kote) — Nashua (TRADE-MARK) now gives you quick, easy activation of this revolutionary delay action, heat seal paper with the Pervenactor! *Specifically designed* for use on tough or interrupted labeling jobs, you can activate Pervenac labels up to 4 inches in width with a Pervenactor. Thus a single operator can activate and subsequently apply large, small and intermediate sized Pervenac labels to a wide variety of surfaces including metal, film, wood, enamel, paperboard and glass!

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Quick Facts

- Ideal for activating delay action, heat seal paper and paper backed foil.
- Thermostatically controlled—a "miser" on current.
- Adhesive-side activation (protects against ink smears).
- Easy Operation—as simple as rubber stamping.
- Portable—weighs only 20 lbs.
- Combined with Pervenac — assures rapid tack, permanent adhesion *plus* many other labeling advantages including adherence to tin and wet glass.

NASHUA GUMMED AND COATED PAPER COMPANY
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NASHUA
MAKES PAPER MAKE MONEY FOR YOU

SPECIALTY BOXES . DISPLAY TRAYS . METAL SPECIALTIES . CHARGA-PLATE SERVICE

Modern packaging

Vol. 22 No. 3 November 1948

IN FAR ALASKA rations dropped by air must be packaged to withstand temperature as low as 85 below.

WHAT THE ARMED FORCES WANT

Possibility of arctic combat keys new military preparedness program to sub-zero conditions and poses some staggering package problems, many of which still defy solution

It is not pleasant to consider, but the fact is that we are heading straight into another military packaging program, the technical and protective requirements of which will make the late unpleasantness seem like mere child's play so far as packaging problems are concerned.

This new program—which is not *war* nor *defense*, but distinctly a *preparedness* program—is all the more exacting because it requires the packaging of military field supplies not for immediate shipment and use, but for safe storage over an indeterminate period that may run for years. And if and when such supplies are called out of storage and sent into the field, they must have been so packaged that they will stand up under climatic conditions far more extreme than were encountered on the major battlefronts of the last war. The new emphasis, obviously enough, is placed on extreme arctic weather conditions.

Fortunately, our military establishment is today far

OVER THE SIDE from a cargo plane go rations and supplies. This may be the principal method of delivery in arctic regions. At right, parachuted supplies float to the earth in a glacier area typical of conditions in the Far North.

wiser in packaging and in packaging preparedness than was the case in 1940–41. With the merging of our three Armed Forces under one Department of Defense, there has been created a National Military Establishment Munitions Board and one of the most active subdivisions of this joint board is its Packaging Committee.

For many months the Armed Forces, severally and jointly, have been studying, experimenting and planning the types of packages that will be important to the preparedness program which is now getting actively under way. They know what they have—and they know what they want.

It is now possible to disclose some of this information. To the packaging field, nothing could be more important. The Armed Forces need help in the solution of packaging problems still unsolved and from the standpoint of national security it is vital that these problems be tackled by everyone in the field who may have something to contribute. From the aspect of self-interest, it is important that every packaging supplier and user study the general directions of military packaging development for the effect that it may have on his own supplies of materials.

The over-all problem of today's military packaging preparedness may be quickly grasped from the simple statement that practically all of the new specifications will require protection of contents at all points within a Fahrenheit temperature range of from 85 deg. below zero to 165 deg. above.

Commercial packagers who think they have water-vapor problems should consider that these packages will be expected to withstand storage at minus 35 temperature in arctic regions while strong solar radiation is at work raising the temperature *inside* the package and condensing into liquid water any water-vapor that may have entered.

Packaging materials developed for use in World War II were engineered principally to combat a combination of *high* temperature and high relative humidity. Those were the conditions our packaging technicians, military and civilian, were called upon to meet—and their record of reduction of losses of material due to improper packaging to almost the vanishing point (from a reported loss of 70% in 1942 to just a shade over 5% in 1945) is evidence enough of Yankee ingenuity at work in the packaging field.

Obviously, we were too busy fighting a war in the Pacific to develop packaging materials capable of meeting the havoc of extreme low-temperature ranges—and the frozen food industry's research hadn't progressed far enough to be of real help. It was known, of course, that asphalt, which was depended upon as a primary water barrier, would fail at about 20 deg. below zero F. and that most of the plastic films became brittle at low temperature. But there the real information and knowledge stopped.

Almost as soon as the Navy Packaging Board was established in 1944, a committee of Navy people tackled the job of standardizing test procedures, equipment and techniques as the first step in an unprecedented program of packaging material research and development. This committee was broadened to include Army personnel as soon as the Army Packaging Board was established in 1945 and it now functions as a sub-committee of the National Military Establishment Munitions

Board's Packaging Committee and consists of representatives from the Army, Navy and Air Force. Much has been accomplished by this group to make possible a practical approach to current research and development in the packaging material field.

Last January the Navy Industrial Assn. established a Packaging Advisory Committee and, among others, two sub-committees were formed which have a substantial bearing on packaging material research and development; these are the sub-committees on Testing and on Industrial Review. The need for better military-industry coordination in this field became apparent when it was determined that industrial management was spending almost a half-billion dollars annually for package research and practically none of the benefit from this vast unorganized program was filtering through to the Armed Forces. Most of the packaging technicians who were on duty with the Army, Navy or Air Force during World War II had returned to industry, but the military establishment, fully aware of the importance of packaging in material logistics, retained in every branch skilled packaging technicians who have been studying the needs of the services. These people have also been putting to practical test many of the new postwar packaging material developments and in many instances they are testing the new materials along with the old ones.

It is this important field of the needs of the services with which we are concerned here.

Undoubtedly, the greatest single contribution of the packaging industry in World War II was V-board and the resultant water-resistant cartons. But now the Armed Forces say: We have to do better! It is necessary to provide fibreboard cartons capable of V-2 and V-3 performance without the use of asphalt! Impossible? So was V-board 10 years ago.

The Navy's Seabees used millions of tons of cement in the Pacific—cement which moved out in specially constructed multiwall paper shipping sacks containing asphalt barriers. But can you picture such a container being employed to move cement into an area where the temperature hits 60 deg. below zero? An easy answer would be to put the cement in steel drums—but where would the steel come from? Present Armed Forces studies indicate the answer to the problem lies in a substitute for asphalt—and the barrier need not be a laminate; the field of coatings opens up a whole new world for application studies, according to the military technicians.

Corrosion prevention accomplished by means of a waterproof package with preservative compound (Method I-A of Joint Army-Navy Specification JAN-P-116 covering Methods of Preservation) as employed by the military services during the last war—and since—is too costly, they say. A better and cheaper way of accomplishing this type of protection must, of necessity, be found.

Corrosion-prevention compounds used in World War II are proving inadequate under conditions of extreme cold. Some are incapable of removal; others can be removed only with the greatest of difficulty, while still others crack or otherwise break down. Compounds which will stand up under these severe extremes of temperature and are capable of easy removal at very low temperatures are badly needed. Studies currently under way challenge the ingenuity of packaging technicians who are striving to solve the problem by developing corrosion prevention compounds which will require no removal.

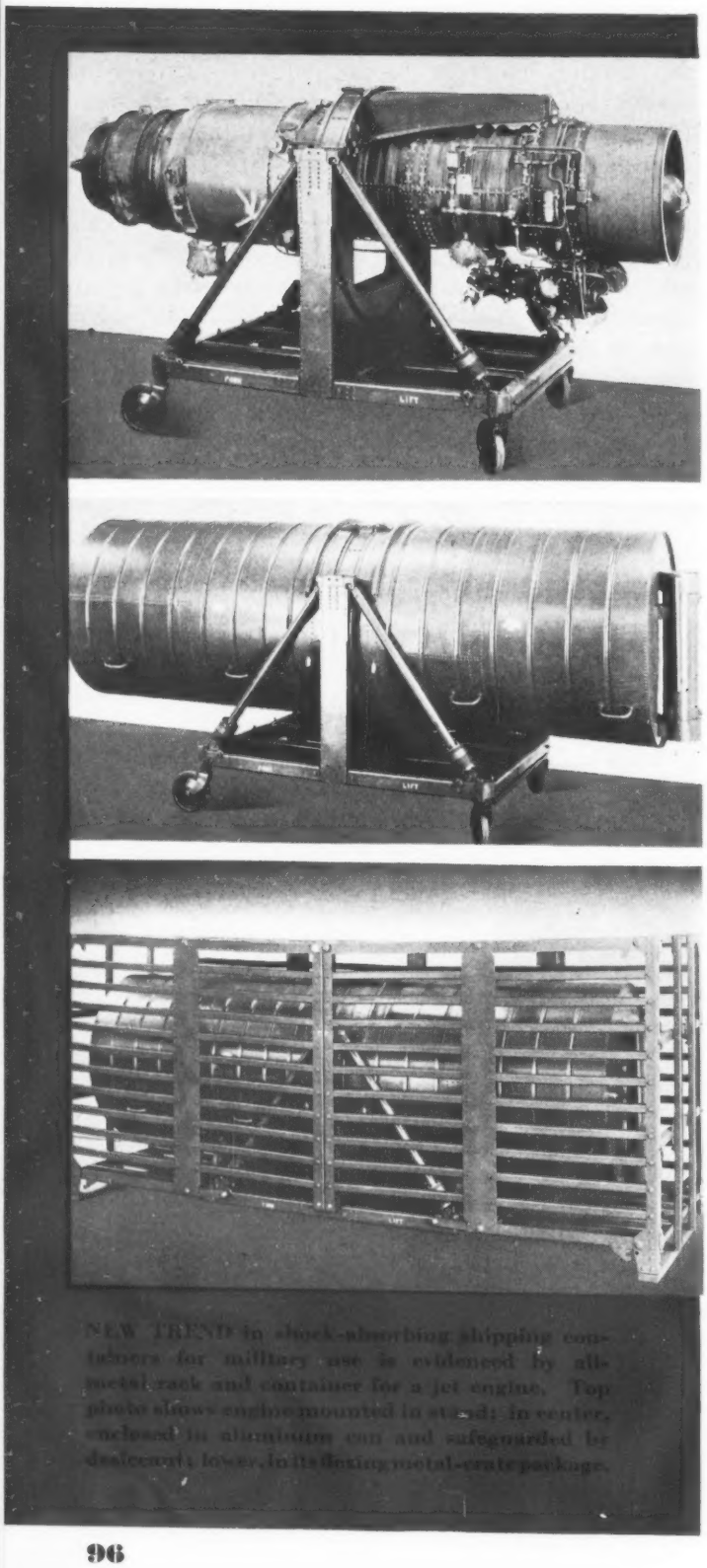
Practical packaging applications for vapor-phase inhibitors in World War II were almost non-existent. Much can be accomplished in developing applications for these inhibitors for the prevention of corrosion in packaged material; and there is much room, the military experts say, for improvement of the inhibitors themselves. However, a good vapor-phase inhibitor has been developed by one of the oil companies and at least two paper companies are now producing "VPI" papers, as they are called. VPI is a volatile chemical which, when coated on kraft or other wrapping paper, vaporizes very slowly, forming an invisible protective film on the metal part within the package to inhibit corrosion. The wrap need not touch the article to be protected. This type of corrosion prevention, requiring no cleaning of the article prior to use, is inexpensive and has obvious advantages over other types of greasy or gummy protective coatings.

A moldable greaseproof barrier having Grade A characteristics (meeting the requirements of Joint Army-Navy Specification JAN-B-121) is currently un-

AERO-DROP free-fall container is examined by Navy officers at Forest Products Laboratory. Developed too late for wide use in the last war, this fibreboard "package with wings," which spins gently and accurately to the earth from plane, may be very useful in event of a new war.

der test, as are combination sheets having the combined characteristics of Grade A and Grade C greaseproof barrier materials (JAN-B-121).

Coatings which can be sprayed or rolled on paperboard prior to its fabrication into folding cartons or set-up boxes have limitless possibilities as greaseproof barriers. Polyethylene, because of its low cost and good low-temperature characteristics, is particularly interesting in this connection.



NEW TREND in shock-absorbing shipping containers for military use is evidenced by all-metal rack and container for a jet engine. Top photo shows engine mounted in stand; in center, enclosed in aluminum can and safeguarded by desiccant; lower, in its fleeting metal-crate package.

There is much to be done in the improvement of plastic hot-dip compounds used in the accomplishment of corrosion prevention by means of the strippable-compound coating method (Method I-B of Joint Army-Navy Specification JAN-P-116 covering Methods of Preservation). Compounds are needed which have better aging characteristics and which will, after application, hold up under extreme cold without checking or becoming brittle. And in the field of plastic dip compounds, those which are applied cold, or at atmospheric temperature, hold great promise.

The military services are currently studying the reactions of various desiccants under combinations of low temperature and high relative humidity. Due to the difficulties encountered in renewing desiccant in the field, materials are being sought which have longer life and which are capable of handling the great extremes of temperature at which the Armed Forces are working. A desiccant is needed which will not give up moisture after the most extreme change in temperature inside the pack. And these desiccants must be available in unlimited quantities. The opportunity for scientific development in this field is wide open and every new advance is being encouraged to the utmost.

Case liners made from asphalt-laminated papers just won't do in these extremely cold applications. Other means must be found of economically introducing into the sheet material a barrier against the passage of liquid water.

Most of the plastic coatings employed on water-vaporproof barriers to make them heat sealable have a tendency to crack or break down completely when exposed to cold and rough handling. New materials must be found to act as barriers in water-vaporproof packages containing desiccant (Method II of Joint Army-Navy Specification JAN-P-116 covering Methods of Preservation). Several sheets which may perform well under extreme temperature conditions are currently being tested and their applications are being studied.

The Food and Container Institute for the Armed Forces—subsistence procurement agency for all three services—is hard at work with an enlarged staff in Chicago on ration packaging problems, but little information can be obtained. It is known that the old K-ration, which was the mainstay of field forces in the last war, is out and that present emphasis is on the more complete 5-in-1 (rations for five men for one day or for one man for five days) and 10-in-1 packs that were introduced so successfully toward the end of the war. Here again, thought must be directed toward protective packaging materials that will be low in cost, but fully effective at sub-zero temperatures.

Much effort has been put into the study of air-lift containers. An educational program has been under way for some time in the Navy, pointing up the fact that in accomplishing conservation of weight, air freight is normally subject to a ground handling at both ends of its air trip and that one of the handlings is likely to be unusually rough. The Navy requires that containers for air-lift operations receive special attention in their

design and it prohibits the indiscriminate stripping of excess weight from these containers. Toward this end, specially constructed light-weight materials such as laminated paper and veneer panels, and resawn lumber in the thinner dimensions, are being tried and tested.

Specially designed free-fall containers have been undergoing tests at the hands of the services, as have containers designed for parachute drops, and it is desired to push this type of development for use in mass air-drop operations.

Among the more interesting of the free-fall containers is the one developed late in the last war by William J. Sanderson of the Forest Products Laboratory. Based on the principle of the maple seed, which spins in the air and drops slowly on the ground, this is a rectangular fibreboard container with hinged fibreboard airfoil wings which hold the container upright in its fall and reduce both the rate of descent and landing impact. The landing is so gentle that even glass containers are seldom broken. It can be dropped with great accuracy from heights as low as 500 ft., can be aimed more effectively than a parachute and will not be dragged over the ground by the wind after landing. The Aero-Drop container, as it is called, has had some uses for emergency deliveries during peacetime and a patent was issued only last month to Mr. Sanderson. Since Mr. Sanderson is a government employee, however, the patent is in the public domain.

In the interests of lumber conservation (it has been reliably stated that on V-J Day, 50% of the trees being harvested in this country were going into packaging components) the re-sawing of six-quarter lumber into $\frac{5}{8}$-in., finished one side, sheathing for boxes and crates is coming in for concentrated study by military packaging people.

The Armed Forces want all of industry to take a broad approach to the problem of shipping container development, based on the protection of package content against physical damage. They are looking for people in the packaging field who will discard the old shibboleths of crate design and substitute sound fundamental thinking on the research engineering problem of absorption of energy which, after all, is a very important function of a shipping container.

It is this broad type of thinking that enabled the Navy's Bureau of Aeronautics to announce recently the application to jet aircraft engine packaging of an all-metal re-usable unsheathed crate, complete with re-usable metal water-vaporproof barrier and a self-contained metal pallet. The pack has been thoroughly tested, according to Navy officials, and proved capable of absorption of shock and vibration to a remarkable degree.

There is much to be done in the adhesives field in creating glues capable of retaining bonds at very low temperatures. One problem which military people are facing is the failure of steel hoops for wooden kegs and barrels when subjected to extreme cold. They are looking for a glue which will hold wooden staves in place without the use of hoops.

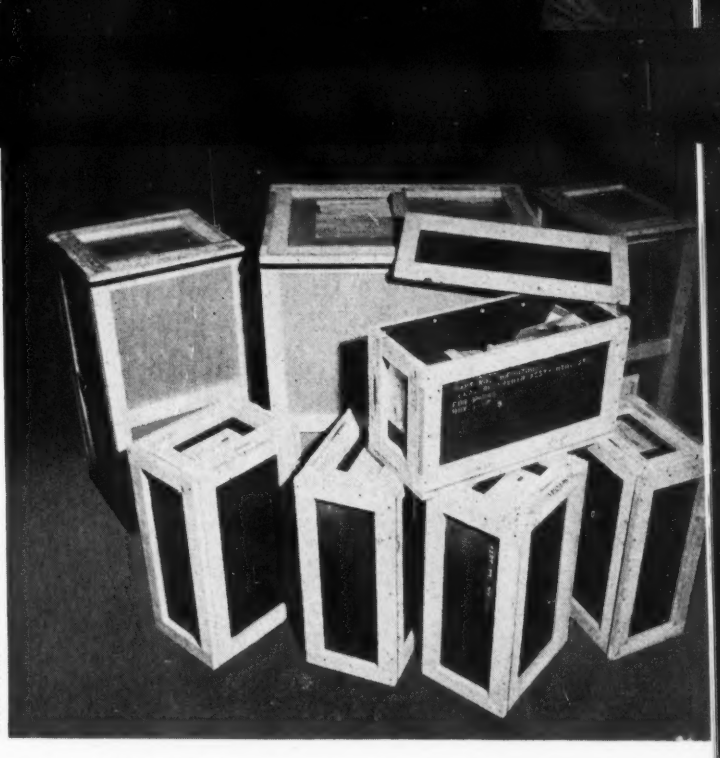


PHOTO COURTESY U. S. PLYWOOD CO.

LAMINATED plywood and paper, light in weight and strong, has great possibilities as shipping-container material. Republic Aviation uses these plain- and asphalt-laminated containers.

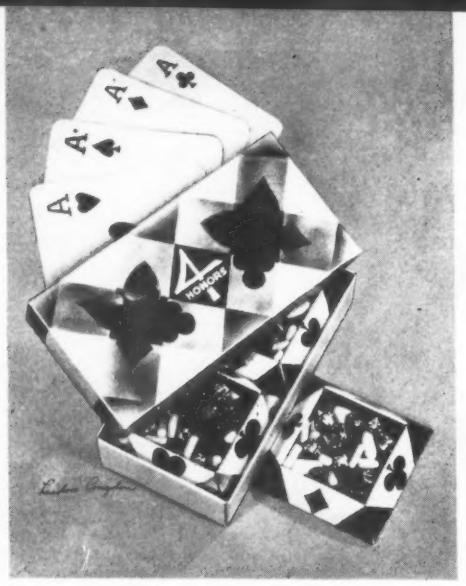
The bonding of many of the new materials to be produced to answer the needs of the military establishment can be made possible only by the development of special glues. These present a real challenge to the adhesives industry.

Container closure is another field in which the maintaining of large bodies of combat troops in a cold climate raises many problems. Bottle, can and carton closures must retain their sealing functions, but be of designs which permit their removal with heavily gloved hands. The touching of bare metal in these sub-zero temperatures with unprotected hands can result in serious injury. A can closure capable of holding a tight seal, permitting opening and re-closing of the container with gloved hands is another urgent need. A closure for a collapsible metal or plastic tube which would be an integral part of the container would have many applications; such a device would eliminate the fumbling with threaded closures by personnel wearing heavy gloves and the possible loss of screw caps, plugs or other closures in the deep snow.

Fire-retardant and flameproof coatings for wood and paperboard containers have a wide application because of the fire hazard always present in military storage and the lack of any means other than chemicals of fighting fires in sub-zero temperatures. Tests have shown that at 40 deg. below zero, water hoses will freeze and become useless. That is typical of the weird physical problems posed by arctic warfare and indicative of the wholly new area of research that must be probed in order to be prepared.

Acknowledgment

For much of the information contained in the above article, MODERN PACKAGING is deeply indebted to Clinton K. Royce, executive vice chairman of the Navy Packaging Board and alternate to the Navy member of the Munitions Board Packaging Committee.



This month's COVER PACKAGE*

No. 23 of a series

THE PROBLEM: Boxed candies are a highly competitive item and depend a great deal for success on the appearance of the package on the counter. A candy manufacturer who has supposedly developed a line of brightly colored novelty candies of high quality and flavor must therefore have a distinctive package to provide the proper setting for his candy at the point of sale. The candies are especially suitable for luncheons and bridge parties and must sell at a price considerably above average. They must thus be packaged to convey to the shopper the idea of suitability as a bridge-table confection. Because the maker is to get a good price for the product, he can afford to pay a little more than average for the package. He believes it might even be a good idea to develop a package with re-use features, thus giving the shopper a plus value in addition to a quality product. The candies will be sold in specialty food and confectionery shops and departments.

THE SOLUTION: To meet these requirements, the designer planned a package to be called "4 Honors," tying it in with the bridge-party theme. The outer box is of two-piece folding construction with die cutting in the lid in the shape of spades, hearts, diamonds and clubs, covered with acetate so the candies may be seen through the windows. Inside the box are four specially constructed paperboard folding trays, each containing 1/4 lb. of candy, suitable for placing on the bridge table as open dishes holding the candy. The design motif of the trays is also that of the four card suits. Colors are black and red on white for the card motif, accented with blue-gray. The die-cut blanks are printed so that the trays appear to have red linings. The folding boxes and trays are to be made of high quality white paperboard, with color printing directly on the board. The package design thus gives the manufacturer a distinctive unit that will attract attention, designed for a specific market. Informative data is placed on the bottom of the box and trays.

THE DESIGNER: For the past 12 years, Leadora Congdon has teamed with her husband, Tek Osborn, in the operation of the Lea-Tek studios, Chicago, where her work has been directed mostly to package design in the food field. However, in the cosmetic field, her Bogay Mystimizer won the grand award in the 1948 competition of the National Folding Box Mfrs. Assn. Prior to establishing her own studio, she was advertising manager for Blums Vogue, Chicago, consultant on design for advertising agencies and art director for Leon Schlesinger Productions in Hollywood. The color photography department of her studio is nationally known in the lithographic industry for the preparation of food vignettes. Among her many clients she numbers such accounts as A. E. Staley Mfg. Co., Libby, McNeill & Libby, Kalamazoo Vegetable Parchment Co., The Upjohn Co., Dubuque Packing Co. and National Tea Co.

LEADORA CONGDON

*** Brand and company names used in the hypothetical design are purely fictitious; the design remains the property of the designer who conceived it for this cover illustration. Any resemblance to any existing package is purely coincidental.**

WATER-RESISTANT surface of foil label is an advantage for this type of product, which is almost always handled with wet hands and in proximity with water. Red surface of label contrasts with white areas; silver color of foil shows through in outlines.

PROTECTIVE LABEL

Foil wrap for Ajax cleanser is more than a thing of beauty—it's also an efficient water-vapor barrier

The sparkling foil wrap-around label now being used on Colgate-Palmolive-Peet's Ajax household cleanser made its appearance several months ago. Its eye appeal is obvious and undoubtedly has contributed its share to the outstanding sales success of Ajax. Not so obvious is the fact that *protection* was the basic reason for the selection of this label material, with the colorful printing effects being regarded more or less as a plus factor.

The Ajax package, a metal-end fibre can, was originally planned with a foil label, but due to cost considerations, the company introduced the product first in a fibre can with a two-color printed paper label.

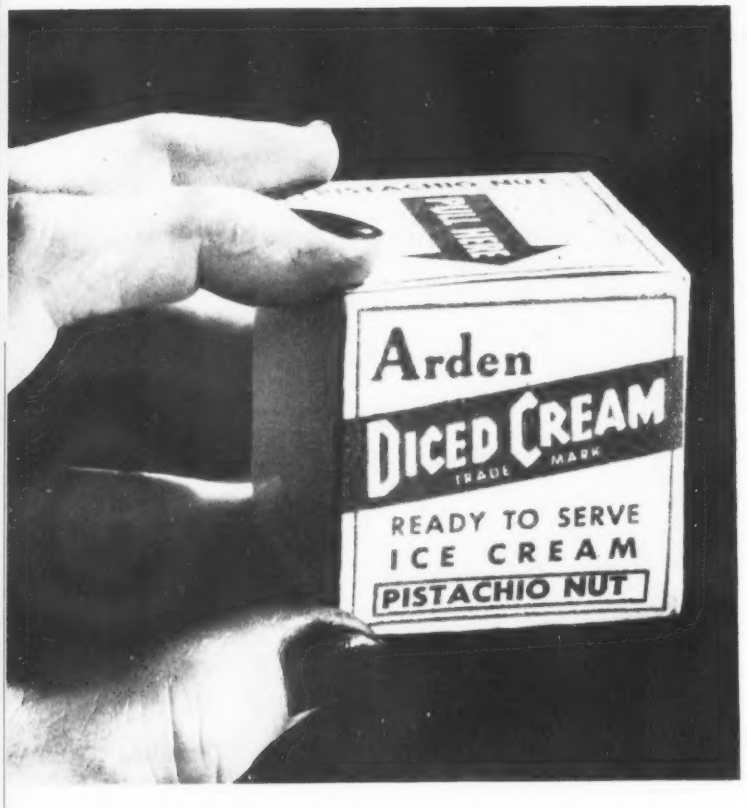
At the same time, however, a series of storage tests was undertaken in the laboratory to determine what type of can would give the greatest water-vapor protection on a cost basis suitable for a product of this type. An all-metal can was not considered because of the scarcity of metal and the greater cost of an all-metal package.

Some 12 different types of fibre containers with metal ends were tested, including various combinations of wax laminations, special coatings inside, asphalt laminations, glassine liners, in addition to the aluminum foil label.

The results of these extensive tests have indicated that while many of these barriers give excellent protection, the foil label package is no more costly than others giving the same amount of protection and at the same time provides a plus value in package eye appeal for the product.

Ajax thus has the distinction of being the first product of its kind on the market with a wrap-around foil label. The brilliant red surface of the metallic label, contrasted with the opaque white areas and the silver color of the foil showing through for outline, has won high acceptance with dealers, who have appreciated the self-service display advantage of the foil package. The package is also appealing to consumers, who are attracted to it on the shelves. In the home, the foil label is an advantage for a package which is practically always handled with wet hands and in proximity with water. The foil provides a waterproof surface which can be wiped off easily.

CREDIT: *Aluminum foil label, Reynolds Metals Co., Richmond, Va*



ARDEN'S DICED CREAM

New easy-opening, single-service package for ice cream promises to banish dippers from soda fountains and facilitate service in the home

TINY CUBE of waxed paperboard measures less than 2 in. and holds 3½ oz. of ice cream.

A new ice-cream carton in individual-serving units, forming a cube of less than 2 in., has been developed by the Arden Farms Co. of Los Angeles and introduced to the trade and the public under the triple promotional banner of sanitation, economy and convenience.

Ice cream in the new folding carton is aptly tradenamed "Diced Cream" and will be distributed both to retail dealers and to soda fountains. On the basis of limited-area testing of the product, however, Arden predicts that approximately 80% of ultimate distribution will be to soda fountains, where the untouched-by-human-hands appeal of sanitation is particularly compelling. In this use, it is a significant extension of packaging to a field where it has seldom been used before.

Both the new patented carton and the custom-built machine used for filling it have been developed directly by Arden, under the personal supervision of S. H. Berch, company president, who has devoted the past six years to the perfecting of the new package.

Each miniature carton contains 3½ fluid ounces of ice cream. The carton is of light, waxed paperboard, especially die cut and scored so that, when it is set up from a flat blank and filled, it can be closed and sealed automatically. The tiny cube is easily opened by a gentle pull at the tabs.

Because of the fact that the carton is waxed, no protective lining is needed; the waxing also insures that the ice cream can easily be emptied in serving. When pulled open, the carton reverts almost to a flat sheet and the cube of ice cream simply drops out without being touched.

Years of painstaking experimentation have gone into the development of the machine which fills the carton. Two pilot models of the machine are now in operation and additional units are currently being constructed in the Arden shops.

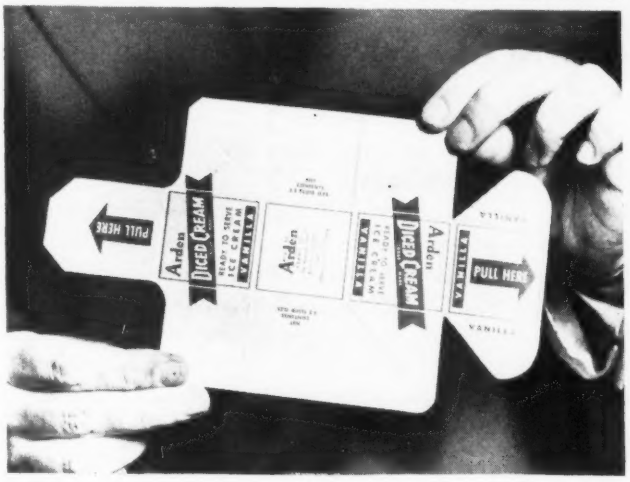
The present packaging operation is only a token of the volume the Arden people anticipate when a full quota of machines is in use. Currently, the ice cream, in liquid mix, is kept in two 1,000-gal. storage tanks. From these, it is released to smaller freezers, at the rate of 150 gal. per hr., which is the capacity of the filling machine.

When the mix is semi-frozen, it is fed into the new filling machine. At one corner of the machine, a set of four cartridges is loaded with flat cartons, 750 to a rack. The entire machine is geared to perform its operations in quadruple units. The flat cartons slide across to a folding mechanism, where a metal plunger indents the base, and the side surfaces are folded in box shape. The four open cartons then move along to a set of small vats, from which the semi-frozen ice cream flows.

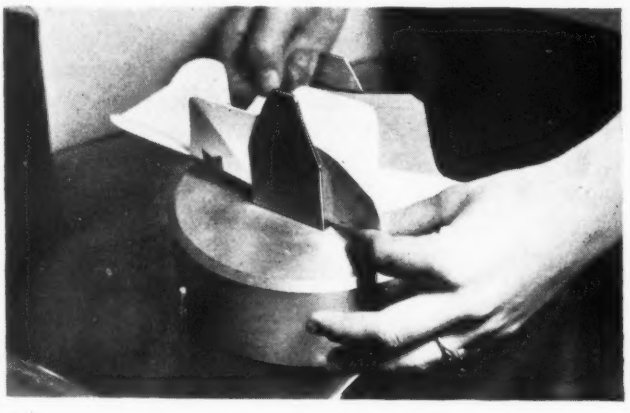
When the cartons are filled, they move around to a set of four intricate closing devices, which fold the cover and tuck it in securely. At this point, the closed and filled cartons move by conveyor off the new machine and onto a moving rack which carries them into a freezing room.

After 35 to 40 minutes in the freezing room, the ice cream is frozen to proper consistency and the freezing process has simultaneously sealed the carton, so that it

PHOTOS, COURTESY ARDEN FARMS CO.



PRINTED BLANK from which the carton is set up and filled on a machine which was devised by the Arden Farms.



AT FOUNTAIN, a metal jig is used to hold the tiny package while it is quickly zipped open by pulling tabs.

SERVICE to the customer is completed by simply inverting the open package and dropping ice cream into dish.

is securely closed without use of glue or tape. The completed cartons then move out of the freezing room back into the main packing room, where they are carried by conveyor to the packing table. Here they are packed by hand, 20 to a carton, in heavy chipboard boxes. From the packing room, they are loaded into refrigerated trucks for distribution.

The filling machine, a small ($2^1/_2$ by 7 ft.), compact unit of stainless steel, is completely automatic. An attendant is needed to load the cartridges with flat cartons, but beyond that point, no direct labor is required for the machine. A second attendant checks the flow of closed cartons to the rack which conveys them to the freezing room.

Sales tests of the newly packaged Diced Cream have been made during the past year in the outlying areas of Los Angeles County and the company plans to move in toward metropolitan Los Angeles as soon as enough machines are ready to meet anticipated demands.

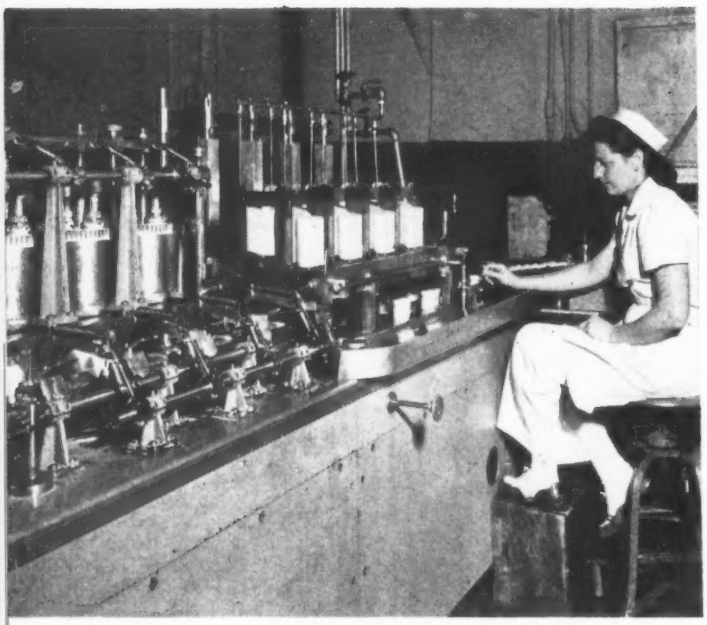
The advantage of the package, in the home-use field, includes the fact that it enables the consumer to buy exactly as much ice cream as is needed for single servings and thus is a great shopping aid to the person living alone or to the small family which is not able to consume a larger quantity at one time. Another talking point is the fact that, since Diced Cream is packaged in a full range of flavors, the family shopper can meet the taste preferences of every member of the family, with no waste.

To the soda-fountain trade, the new carton means doing away with the hand dipper, long frowned on as wasteful and unsanitary. Since health inspectors have from time to time issued alarming reports about the bacteria count in the rinsing water commonly used for dippers, any packaging innovation which banishes the dipper is performing a genuine public service. The new Diced Cream carton can be easily and swiftly opened by the fountain attendant and emptied into the serving dish without hands or spoon ever encountering the contents.

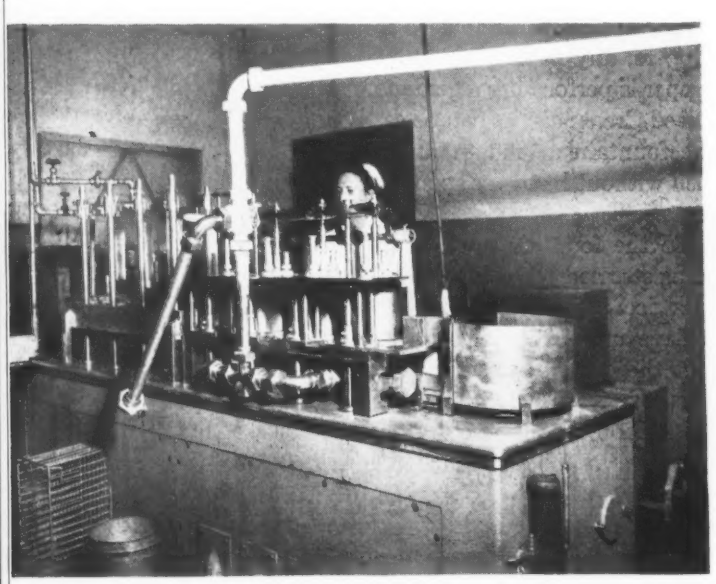
To the fountain operator, the factor of economy is being stressed by Arden equally with sanitation. When bulk ice cream is dipper served, it is impossible to achieve uniformity of servings, with the result either that the customer gets an undersized scoop, in which case he is justifiably indignant, or that he gets an oversized scoop, in which case the operator sees his profits melt away. With Diced Cream, each serving is precisely $3^1/_2$ oz., with no margin needed for human fallibility.

The loss in bulk servings from irregular scoops, plus the loss from shrinkage (when the air content is deflated by dipper pressure), means that few dealers ever sell and collect for the same volume of ice cream they pay for at the receiving end. With Diced Cream, on the other hand, complete cost control is possible. The dealer who buys 10 gal. of Diced Cream in individual servings knows exactly how many units he has on hand for sale and how much he will get for them.

So confident is the Arden management of the foun-



AUTOMATIC MACHINE at Arden Farms turns out more than 5,000 packages an hour. In front of attendant is a set of four racks, each holding 750 carton blanks. The blanks drop, are formed up and pushed to the rear in squads of four. They move to the left under four filling hoppers and then move again to the front of the machine, where the mechanism shown in left foreground folds the cover and tucks in the flaps. Operator inspects the completed packages as they move under her hand on the conveyor belt to racks which carry them into the plant's freezer room.



REAR VIEW of machine, showing four small filling vats, at right, which are kept continuously filled by overhead pipe from ice-cream mixer.

FOR SHIPMENT, solidly frozen and sealed packages are packed 20 to a chipboard carton and delivered by refrigerated truck to retail outlets.

tain possibilities of the new package that they have gone all-out in developing dealer aids for it. One of them is an aluminum opening prong. The carton can be inserted between the prongs and easily pulled open before it is emptied into the dish. By use of several of these sets of prongs, a fountain which does a large volume of business can have ice cream ready for serving with real mass-production speed.

Arden has also developed a new set of glassware to aid in the merchandising of Diced Cream. Each unit in the set of five glasses (sundae, soda, malt, sherbet, banana split) has been designed in a squared-off contour, to carry out the rectangular shape of the servings. For the ice-cream-cone trade, Arden is issuing a cup-shaped cone, which does not taper as abruptly as the conventional cone and can thus hold the square serving securely.

In the present initial phase of merchandising, Arden has taken on the sales of glassware and dispensing prong to dealers, although the ultimate intention of the company is to assign the distribution of these items to normal channels.

The production of the special cartons, too, may finally be allocated to a regular commercial supplier, working from the Arden-developed dies. As for the future of the filling machine itself, the company has not even put out feelers on this, since its development has been carried out in utmost secrecy and even today, with its performance made known to the trade, only a limited number of outsiders have been permitted to view the machine in operation.

However, if the individual-serving carton causes the revolutionary changes in soda fountain operation which are now foreseen, it seems likely that the firm will either expand beyond its present regional market or tie up with other dairies on a franchise basis.

WILSON REDESIGNS

Meat packer's big line of products now appears under a modern, streamlined label, retaining the orange "house color"

An across-the-board packaging redesign program, based directly on the demands which modern merchandising methods impose upon the package as a sales vehicle, has just been completed by Wilson & Co. Practically the complete line of Wilson packaged products now bears the new streamlined label.

The redesigned packages are notable for their unmistakable company identity, their uncluttered appearance and the ease with which the names of the products may be read. Continued use of the Wilson orange color was regarded as a "must" by company officials because of its long association with the Wilson line of meat products and other items. But among the new features of the label is the white "W" which is used prominently in close contiguity with the name; the prominent initial does not supersede the regular trademark, but only makes positive the quick identification of a Wilson product.

Six basic factors were considered in working out the new label. What these criteria are and how they are reflected in the redesign are summarized in these words by Wilson officials:

1. *Legibility.* "Were you to visit an oculist, you would be placed before a white card bearing black type—an eye-chart. The type and style of lettering used is much the same as that which appears on our label. It's the *easiest to read.*

2. *Attention value.* "The Wilson orange gives our packages a distinction possessed by few. When it is contrasted with white, and black lettering on white, we have a result that commands attention. The significance of white becomes apparent now—it gives an impression of cleanliness, quite desirable in food."

3. *Uniformity.* "As this label appears on more and more Wilson products, the consumers gain the impression that a company making so many products must perforce make quality products. This impression is obtained only by such uniformity and, by this concentration on one design, the brand name of Wilson will receive more impetus and more acceptance of more Wilson products will result."

4. *Identity.* "Packaged foods are seen by more consumers more often than any other form of advertising. The retailers shelves are full of competing items. This is confusing to the buyer. She, of course, reaches—and reaches quicker—for the package she can most easily and most quickly identify. Thus, the white "W" speeds up her identification. . . Because our distinctive label is outstanding in competition in mass display, it is quickly identified by color and design."

5. *Simplicity.* "This factor demands the fewest words, properly emphasized. That is why our labels stress the product name, first, for identity by contrast and design; next, the brand name for confidence and then the Wilson name, and both for quality."

6. *Efficiency.* "Our label is an 'efficient' one. No extra colors to confuse. No waste space. Each element carefully sized to do its particular job. And it is an orderly label too, with a place for every essential element and each in a convenient place."

CREDIT: *Complete redesign program, Don McCray, Chicago.*

UNCLUTTERED appearance and clean typography distinguish the new Wilson packages.

VAPOR-TIGHT PAPER

Manufacturers of hygroscopic and corrodible products find a useful, low-cost barrier in a newly developed wax-laminated kraft material

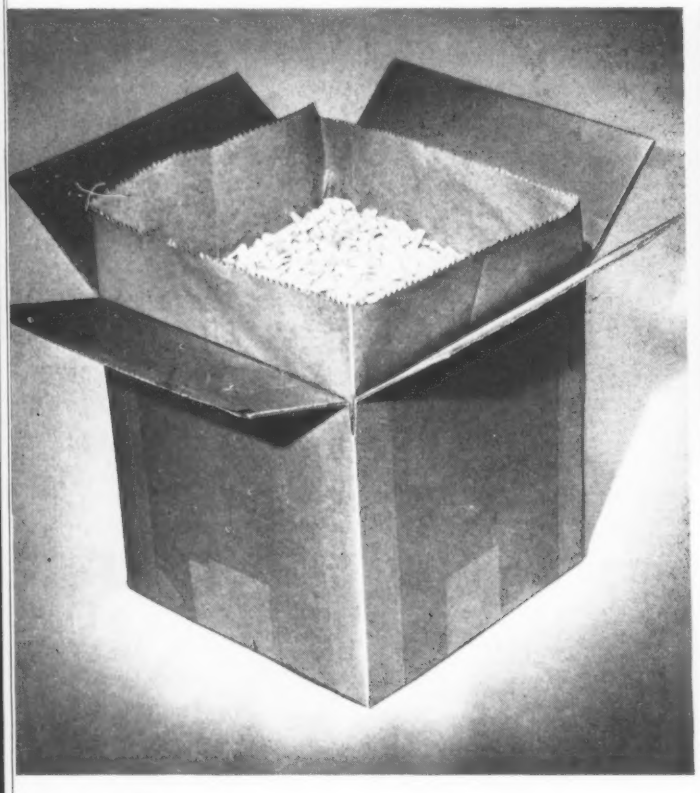
Candy manufacturers wanted a packaging material in which hard candies could be shipped and stored in bulk quantities for periods as long as several months without moisture pick-up which would cause them to stick together and become unsalable. A roller-skate firm sought a tough, economical material which could be made into a bag to protect the skates against moisture and rust. Producers of packaged fruit powders desired a low-cost material which could be used in direct contact with the highly hygroscopic powders to guard them against moisture penetration in shipment and on the retailer's shelves.

The requirements of these firms, and a number of others producing a wide variety of products, are reported successfully met by a recently developed wax-laminated kraft material having a number of valuable properties. Although the outstanding characteristic of the material is its relatively low water-vapor transmission, the material gains unusual versatility from other factors as well. All characteristics, including low WVT, are maintained at freezing temperatures as well as in high summer temperatures. Whereas most flexible vapor barriers are relatively fragile, this material possesses the high strength of kraft for packaging and shipping abuse and can be folded and molded without damage to the wax film in wrapping or forming packages, bags or envelopes.

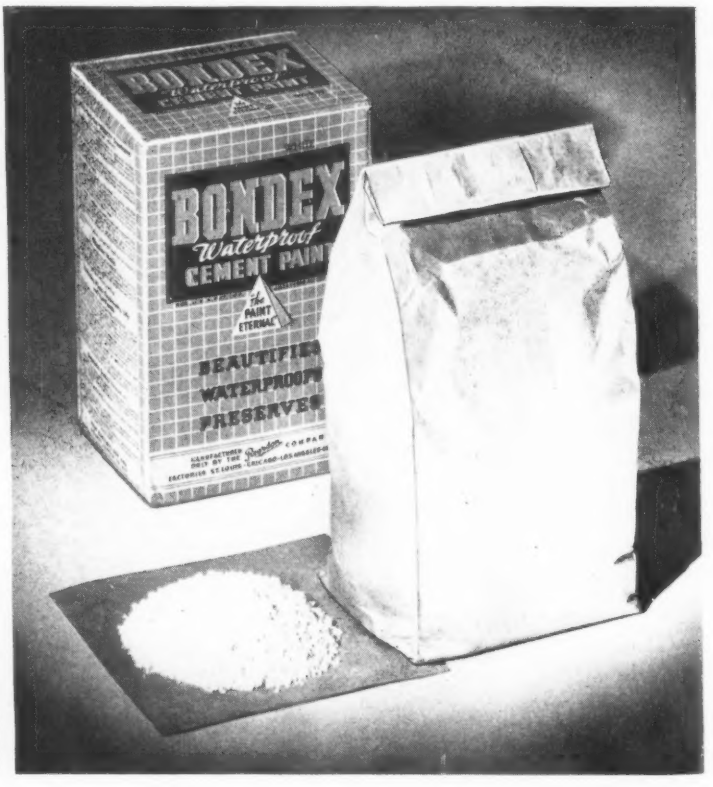
The special blend of wax used in producing the laminated sheet is light in color, making the material acceptable for the packaging of food or other sanitary uses. If desired, the material can be given additional "buy appeal" through the use of bright colors, design marking, creping or printing with aniline or rotogravure. On many types of applications, the low cost of the material, as compared to foil, cellophane, rubber-base films, cellulose esters, glass or sheet metal, is an important consideration.

Several leading candy manufacturers now making use of the material have found that its low WVT permits them to store candy corn and similar types of

LINER BAG of wax-laminated kraft, used by a leading candy company, permits hard candies to be stored for several months without becoming sticky and thus enables steady production through summer months.



VAPOR BARRIER, used as a bag in carton, is important in the packaging of hygroscopic waterproof paint powder. The material is a wax-laminated kraft and its low WVT rate is maintained both at freezing and at high summer temperatures.



products safely for several months prior to sale. Since summer is normally a slack period in candy manufacture, manufacturers are thereby enabled to divert some of their operations to the production of Christmas candies.

When this laminated kraft barrier is made up with 20 lbs. of the special-blend wax, the water-vapor transmission, expressed in grams per 100 sq. in. per 24 hrs., will average 0.30, tests indicate. With 25 lbs. of wax, an average WVT of 0.20 is reported, while the figure for material made up with 30 lbs. of wax is 0.15.

Manufacturers of soft-drink and dessert mixes employ the barrier in the form of inner envelopes and bags. In one case, a supply of fruit-mix powders so packaged successfully withstood actual water immersion when a storeroom was accidentally flooded, the highly hygroscopic powder remaining dry and usable.

The Reardon Co., Chicago, employs a bag of the same type of material for packaging its Bondex waterproof cement paint, using it in conjunction with a sealed paperboard carton carrying the printed label and instructions for use of the product. In the form of spirally wound cheese containers, the material was found acceptable by a number of producers, including the Kraft, Stella and Borden companies in Chicago and the Ehrat Cheese Co. of Campbellsport, Wis.

Adequate moisture protection is imperative in the packaging of sensitized papers. Among the firms utilizing the wax-laminated kraft barrier for this purpose are the Ozalid Division of General Aniline Co., Binghamton, N. Y.; Charles Bruning Co., West Orange, N. J.; Frederick Post Co., Chicago; B. K. Elliott Co., Pittsburgh; Indianapolis Blueprint Co., Indianapolis, and L. L. Ridgway Co., New York. In some instances, such firms are employing the material in different colors to code the type of paper packaged.

Bienfang Paper Co., Metuchen, N. J., employs the wax-laminated kraft material as a ream wrapper for moisture-sensitive papers and Remington Rand, New York, uses it to lightproof and moistureproof its sensitized photographic papers. Sylvania Division, Deep Run Spur, Va., successfully solved a similar problem by using the material as a water-vapor barrier for rolls of cellophane.

Spirally wound containers of the special kraft lamination are employed by the Dearborn Tractor Division of Ford Motor Co. for packing small machine parts and catalogs. Mesta Machine Co., Homestead, Pa., wraps highly polished steel calendar rolls in the material, while Aluminum Co. of America successfully uses it as an inside skid wrapper for oil-coated sheet metal.

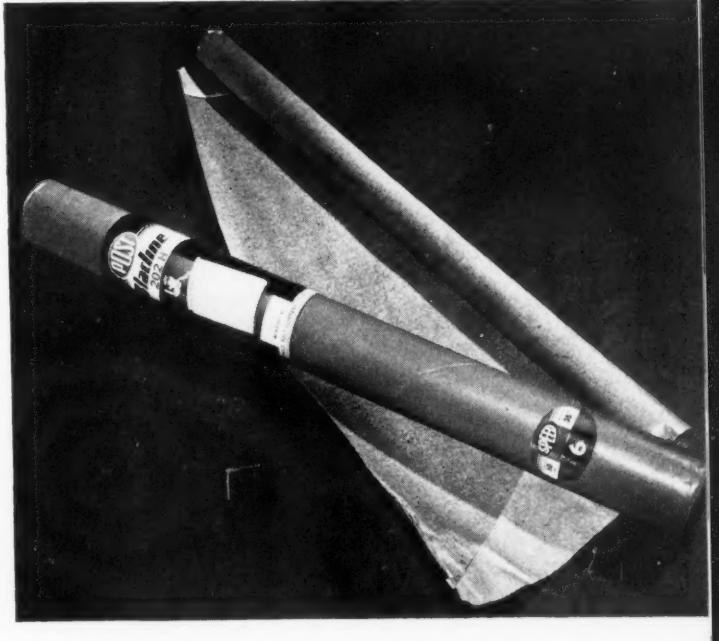
Among the miscellaneous types of products being packaged in this type of barrier are bolts of acetate rayon (American Viscose Co., Meadville, Pa.); beer filters (Filter Materials, Inc., Waupaca, Wis.) and peony bulbs (Mount Arbor Nurseries, Shenandoah, Iowa).

As base paper, the material functions effectively on packaging machines in food and drug factories which form and fill and close by strip or crimp sealing. It may also be used as lids and sealers for containers and drums; for film and photographic-supply wrappers, containers or envelopes and for tobacco bags, pouches and envelopes. When used as sample packages for foods, powders, drugs, etc., it combines the virtues of water-vapor protection, printability and low cost.

The wax-laminated kraft material is available in rolls, sheets or specially designed bags from the mill or for converting by others into envelopes, pouches and square or cylindrical drums, boxes and containers.

TEAR STRENGTH sufficient for skates is combined with protection against moisture and rust.

SENSITIZED PAPERS benefit by water-vapor protection and in some cases also are protected against light. Frederick Post uses this pack.



CREDIT: *"Vapolite" wax-laminated kraft paper, Thilmany Pulp & Paper Co., Kaukauna, Wis.*

NO LABEL is used on Royal Family 24-oz. bottle, which is the first private-mold, one-trip bottle carrying molded-in name and trademark. Slip-on paper collar is being used during introductory period, but will be discarded when consumers are familiar with product.

ONE-WAY

An energetic young newcomer to the carbonated beverage business has taken a cue from its progressive neighbors in the brewing industry by adopting a one-way, no-deposit, glass bottle for its new Royal Family brand of soft drinks and mixes. This innovation by The Cola-Moca Bottling Co., Denver, may well have industry-wide repercussions.

Significance of this important extension of the use of the one-trip bottle into the field of soft drinks is forcefully brought home to the rest of the industry by a report that the company has had a 500% sales increase since the new bottle was introduced last June. The firm now ranks as the fourth largest bottler in Denver.

The bottle which has caused this remarkable sales increase is, itself, distinctive on two counts from the design viewpoint. It has no label. The name Royal Family and the trademark crest are blown in the front of the stippled bottle. This is important in production since it eliminates completely any labeling operation in the bottling line.

COMPACT BOTTLING line consists of a simple automatic bottle washer (left), sterilizer (center) and filler-capper (right). The labeling machine is eliminated. Capacity of line is 1,000 bottles per hour.

Designed specifically for home use, the 25-oz. bottle is three-fifths the height of a conventional 28-oz. bottle. Its $8^3/_8$-in. height allows it to be stored upright in most modern refrigerator shelves, whereas the conventional long-necked soft drink bottles often have to be laid on their sides or tilted at an angle in order to fit them into the refrigerator space. The glass weighs $18^1/_2$ oz.

Since about 50% of the total soft drink market rests on the sale of bottled goods for home consumption, the importance of a one-way bottle in improving the merchandising position of carbonated beverages is readily apparent. The producers of Royal Family have already found the advantages of its one-way, no-deposit bottles comparable to those the brewers discovered more than a year ago.

Cola-Moca's current advertising campaign spotlights the merchandising qualities the throw-away bottle has for the consumer. One ad, for instance, stresses its outstanding customer convenience by showing a caricature of a man staggering under the burden of two armloads of empties with the headline, "Man of Extinction." Copy in the ad reads, "Fast fading from the scene is the sight of poor husbands trudging to the store, returning an armload of empty bottles. The reason? They're now buying Royal Family soft drinks in no-deposit, throw-away bottles. . . and after enjoying the contents, they toss away the empty bottles.

"*You* can enjoy the same modern convenience. Simply select Royal Family soft drinks. No empties to return, no deposit to pay. . . when you shop the Royal Family way."

Other ads point out the sanitary feature of the non-returnable bottle, its lighter weight that makes carrying the bottle home easier, the space-saving shape of the bottle.

Where the new Royal Family no-deposit, no-return bottles have really made a hit is with the dealer. He no longer has to accept empties and refund deposits, not only on the brands he handles, but sometimes—to appease a good customer—on brands he doesn't handle. He no longer has to take time out to check the cases of empties going back to the bottler when the pick-up truck arrives, arguing with the trucker about records and taking the loss on broken empties. His valuable store space has been released because there are no cases of empties to pile up. All the way through the distribution, the no-deposit, no-return bottle has eliminated a multitude of sorting and handling operations that formerly were necessary.

The idea of the throw-away bottle for Royal Family, as a matter of fact, stems from a complaint made by a chain grocery executive about the fantastic amount of time spent by grocery employees checking and sorting the conventional, returnable soft drink bottle. This complaint was made to Robert E. Warren and Paul Spencer four years ago, even before they founded The Cola-Moca Bottling Co. The executive in question told them how, at one of the company's warehouses, three men were employed to do nothing but sort returned empty bottles.

Two years later, when Cola-Moca was organized and its first product, a carbonated coffee-cola drink was being bottled, Mr. Warren and Mr. Spencer had many occasions to remember the complaint. They were using returnables. It was then that they commissioned a bottle manufacturer to undertake development work on a one-trip bottle.

Because soft drinks are bottled under considerably more pressure than comparable malt beverages, such a bottle had to satisfy two almost diametrically opposite requirements—tough enough to take the rigors of the bottling line, yet light enough in weight to keep in a throw-away class. After almost a year of testing, a bottle believed to fulfill these two requirements was turned over to the company and the project moved from a laboratory stage into the field.

For seven months, the new flavored soft drinks were bottled in the no-deposit, no-return bottles and sold on a small scale in controlled outlets without any advertising or promotion. Reactions of both dealers and con-

FOR SODA

Denver bottler brings no-deposit, no-return featured to carbonated beverage field: records 500% sales increase since introduction in June

INSPECTED against a strong light as they leave the capping machine, the bottles are returned to the original corrugated cartons in which they were received for delivery to dealers. A conveyor takes cartons to loading dock.

SHOPPER is attracted by the convenience afforded by this no-deposit, no-return bottle in the large size popular for home consumption.

sumers were noted carefully. Cost figures were meticulously compiled. To get a cost comparison between a no-deposit bottle operation and a conventional bottle operation, the company bottled a consumer-sized (7 oz.), five-cent, returnable bottle as well as the family sized, non-returnable bottle (difference in sizes was compensated for in the analysis).

At the end of this test period, the entire project was reviewed in toto. Results were favorable and the company proceeded to build a new plant in which new bottling equipment was installed. The first no-deposit, non-returnable bottle used by a soft drink company was thus officially introduced last June with Royal Family's family-sized bottle. Dealer price for a carton of 12 bottles is $1.20, according to the company. The bottle retails for 15 cents or two for 25 cents. The company also sells Royal Family drinks in a small, five-cent, returnable bottle.

The big, one-trip bottle is understood to cost four cents, while returnable bottles of comparable size average about seven cents apiece. According to the company's cost comparison of the two types of bottles, the expected savings which might be found in a re-usable bottle—average life of which is 13 trips—are dissipated by the recurring costs of handling, including the cost of re-labeling.

Detailed cost figures have not yet been released by the company. However, it is significant that the company has made plans to build more bottling plants and, according to Mr. Warren, only no-deposit bottles will be used.

Because the soft drink industry depends on local bottling facilities, Cola-Moca's production experience with the one-trip bottle is particularly noteworthy. In addition to simplifying the actual bottling operation, the throw-away bottle has made their storage problem a thing of the past.

Corrugated cartons holding a dozen bottles are received at the plant from the glass factory. After the bottles are filled they are returned to these same cartons which are then shipped out to dealers. Once they are gone, they are gone for good—the only storage space needed is that taken up by incoming cartons. Even that amount of space can be kept to a minimum by careful scheduling of bottle shipments from the supplier. The storage space formerly required for returned empties in their wooden cases is, of course, obviated.

Not only is the space for empties released, but the throw-away bottle eliminates much of the worry a bottler has about contamination. There is no exposure of empties to attract roaches, ants and other vermin... no danger of an empty turning up with a cigarette butt or worse inside.

At Cola-Moca's plant the bottling line is compact and efficient.

The one-way bottles in their cartons are brought by hand truck to the bottle washer where the bottles are unpacked by hand, placed on the intake feed and sent through the automatic bottle washer and sterilizer. From the sterilizer the bottles travel by conveyor to the filler and capper. As the filled bottles are discharged into the collecting area, a worker inspects them and inserts them back into the cartons. Filled cartons, with their flaps folded, are transferred by gravity conveyor to the loading dock. Standard bottling equipment is used with slight modifications which were necessary because of the new size and the shape of the bottle neck.

Running at capacity, the line can handle 1,000 bottles per hour.

Despite the thinner walls that these light-weight, one-trip bottles have, the percentage of breakage during bottling is reported "infinitesimally small." Partly accountable for this low percentage of breakage is the one-time run through the bottling line—returnable bottles are weakened by the rigors of the bottling operation each time they are run through. A second factor is the elimination of the labeling operation in the bottling line as mentioned above.

To date, Cola-Moca has had no reason to question the adequacy of the bottle identifying itself by its shape and the molded-in name and trademark. Since its formal introduction last June, a point-of-sale paper necklace has been slipped over the neck to call attention to the new product on sale in the store and to emphasize the no-deposit, no-return feature of the bottle. The necklace will be discarded as soon as the company believes consumers are familiar with the new drink and the bottle. Judging from the success so far, the absence of a label has been no drawback.

CREDITS: *Bottle designed by Knox Glass Associates, Inc., Knox, Pa., and fabricated by Denver Glass Bottle Co., Denver. Bottling equipment, Liquid Carbonic Corp., Chicago. Paper necklaces, Peerless Printing Co., Denver. Cartons, International Paper Co., Kansas City, Kan.*

SHELLIES ASSEMBLY

New infant-feeding kit required compact package for 29 items

When a package manufacturer is confronted with the problem of packaging his own product, it is something like the ancient story of a man biting the dog. Shellmar Products Corp., Mt. Vernon, Ohio, converts and fabricates flexible packaging materials. Last month the company launched its own new product—a flexible, disposable infant nursing bottle named "Shellies"—in a consumer package.

Shellies are made of extruded polyethylene film. The company, believing that polyethylene was ideally suited for use as a container for infant feedings because of its sterility, flexibility, waterproofness, heat-sealability and relatively low cost, spent more than three years developing and testing the product. When all the product problems had been solved, Shellmar was still faced with developing a kit in which all the necessary parts could be compactly packaged.

The new consumer package contains six nipples, six bottle caps, six aluminum rings, six plastic rings, two bottle racks, a bottle expander, a roll of Shellies and a direction folder. Since these items are of unrelated sizes and proportions, careful planning was necessary to produce a container of adequate strength that would have the compactness and good appearance required to assure its display in department and drug store baby sections.

Here is how the items are assembled in the package:

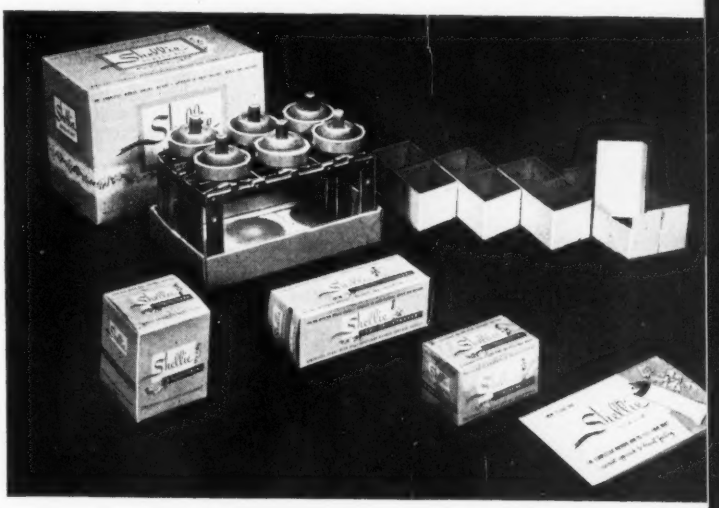
The roll of Shellies is placed in its own individual carton with heat-sealed cellophane overwrap. The bottle expander and the shell caps are also individually cartoned. The bottle racks, with the aluminum rings, nipples and plastic retainer rings assembled on their tops, are stood upright in a paperboard tray. Sufficient space under the bottle racks allows the three cartons and the direction folder to be fitted in the tray. Thus assembled, the entire tray is slid into a reverse-tuck carton measuring $6^1/_4$ by $8^1/_2$ by $5^1/_4$ in. For shipping purposes, paperboard dividers are used to fill the unoccupied space and protect the nipples on the bottle racks.

To display, the tray is removed from the outer carton and the paperboard fillers temporarily discarded. Die-cut tabs in the bottom of the tray fit into the end tucks of the carton and the display is arranged with the tray and component articles shown atop the outer carton.

All of the cartons are printed in blue and deep pink with a gray background on white coated board. The display tray repeats the deep pink of the outer carton, while the plastic rings and the special rubber handle of the bottle expander come in blue, pink or white.

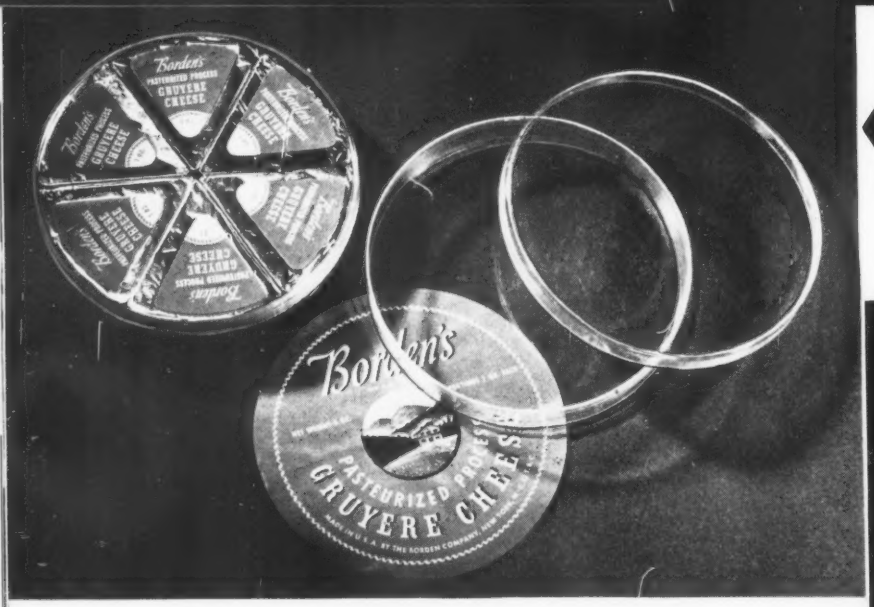
CREDITS: *Carton surface design, E. F. Sullivan, Chicago. Carton and tray structure and manufacture, The Gardner-Richardson Co., Middletown, Ohio.*

COMPONENTS of nursing kit are these 29 items.



INNER PACKING includes cartons, tray, dividers.

COMPACT RESULT is this blue-pink-gray package.



MOLDED PLASTIC—no longer a novelty on the grocery counter, but a standard package for a popular Borden process cheese. A transparent box with many re-use possibilities.

NEW IDEAS FOR CHEESE

Mass-production plastics adapted to packaging give new impetus to year-around, stock cheeses as well as to today's holiday-gift assortments

POLYSTYRENE is material for a 1-lb. package for natural cheese. The base is colored yellow, the color of the cheese; the lid is clear transparent, allowing the waxed paperboard disk label to show through. Patented wedge-thread-lock cover permits the cheese to "breathe." The box is $3^3/_4$ in. in diameter and about $2^1/_2$ in. deep.

Cheese has always been a product lending itself to packaging with re-use appeal. Today, new methods of mass producing plastic containers are bringing new conceptions to cheese packaging.

Plastic containers are not only providing many additional possibilities for the packaging of gift assortments, in which there is renewed interest this year, but they are taking their place beside the long-popular re-use glass containers as standard packages for regular year-around stock items in the grocery store.

The Borden Co. has recently adopted two plastic containers, one already on the market and the other to reach the stores late in November. Both are made of polystyrene.

One is a shallow, round, transparent telescope box molded in two pieces—base and close-fitting lid—to hold six 1-oz. wedge-shaped, foil-wrapped portions of Borden's pasteurized processed Gruyere cheese. A circular paper label placed in one section of the box and showing through the transparent base provides complete identification and shelf display. When the boxes are turned over, the six foil-wrapped wedges, each with its individual triangular label, may be seen in the design of a silver wheel.

After the cheese is removed, the box may be used for pins, paper clips, buttons or other small items.

This transparent box replaces a former round paperboard box. It is estimated that the polystyrene box costs about twice as much as the former container, but this additional cost is partially offset by reduced labor in handling the plastic box. The previous package, while loaded automatically, had to be taped by hand to hold it together, whereas the plastic container, also filled automatically on the same equipment, is made to a close tolerance and requires no taping. There is also less loss from damage to the plastic containers on the production line, it is claimed.

The merchandising appeal of the plastic container is

ACETATE BOX provides eye-appealing setting for gift assortment of cheeses. This, because of the novel arrangement of the four round containers and the four rolls, is called Clover Box.

POKER-CHIP BANK of polyethylene becomes a package for four cellophane-wrapped rolls of Red Rooster specialty cheeses named "Party Link." Each roll contains 3 oz. of cheese. This package was originally molded and sold as a poker-chip bank, but the Frank Ryser Co. adopted it for a cheese container and made the individual cheese packages in a special size to fit the case.

STOCK PACKAGES may be dressed up as gift item when placed in a round acetate box. This "Lucky-7" assortment contains seven 2-oz. spreads marketed by the Frank Ryser Co.

obvious. Dealers like it because of its excellent display features and consumers like the plus value of a re-use box.

Another polystyrene box has been adopted by the Borden Co. for a pound package of natural Vera Sharp cheddar cheese. The cheese is extruded directly into the container, which has a patented wedge-thread-lock cover to permit sufficient passage of air for allowing the cheese to "breathe." The plastic base of the container into which the cheese is filled has been made the color of the natural cheese to give uniform exterior appearance to all the packages. The lid is clear transparent. Labeling is achieved by p'acing a waxed paperboard disk inside the transparent cover on top of the cheese. The round plastic box, which is about $2^1/_2$ in. deep and $3^3/_4$ in. in diameter, is an excellent re-use box for regrigerator storage or for many small items.

In this case, too, the additional cost of the plastic container is absorbed by savings over other methods of

CONVENIENCE is the keynote of this foil-wrapped roll of Borden's natural cheese. Housewife merely pulls out paper disk at one end, pushes cheese through cylinder and slices it off. Canister has outer wrap-around foil label.

PERENNIAL FAVORITES are the decorated glass jars used for cheese spreads. Nine Kraft spreads are now appearing in these forget-me-not glasses, presented in two different color combinations.

packaging a cheese of this type, which would ordinarily require foil wrapping in addition to an outside container of paperboard.

Frank Ryser Co., Chicago, is one of the first to adopt a polyethylene container for cheese. This package is for what the company calls its "Party Link" assortment of four 3-oz. packages of Red Rooster Wine Cheddar, Rum Cheddar, Smoky Roll and Blue and Port cheeses. The container is designed for re-use as a poker-chip bank after the cheese is removed; it was, in fact, originally molded and sold for that purpose. The cheese packages are specially made in a size to fit the poker-chip case.

This company is also making use of two acetate boxes for gift assortments: one called Clover Box, containing four assorted Wine Links and four 2-oz. spreads arranged in a four-leaf-clover design, and Lucky-7 which holds seven of the Red Rooster 2-oz. spreads.

Another firm marketing a handsome line of gift-packaged cheeses this year is June Dairy Products Co., Inc., New York. For many years this firm has supplied quality dairy products to leading restaurants and hotels. This year it has packaged its connoisseur cheeses for holiday and year-around gifts designed to be sold in fancy food shops. A number of these specialties—such as cheddar veined with port wine, blue and gorgonzola with brandy—are packed in pottery jars, some in sets of three in mahogany-finished wood chests with hinged lids. Another unusual re-use package is a container made by hollowing out sections of white ash logs and maintaining the natural bark on the outside. Footed and lidded, this container may be re-used for many purposes such as a candy jar or a pot for ivy.

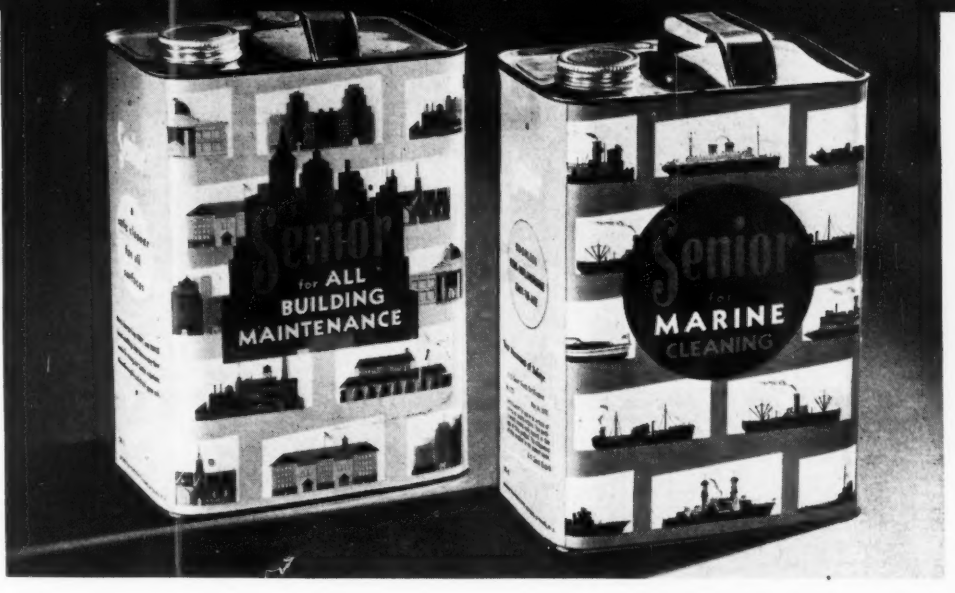
June Dairy's "Glamagifts" are cheeses packaged in aluminum serving pieces—a revolving Lazy Susan for a full loaf of Golden-N-Rich cheese, an aluminum ice bucket containing 4 lbs. of any of the four cheese varieties, protected with paraffin coating over the top and sides, and a 15-in. aluminum tray with sectional bonbon or condiment dish in the center, containing 3 lbs. of eight different kinds of Blue Moon cheeses. Cellophane overwraps and generous ribbon bows dress the products to the holiday occasion.

Among the perennial favorites are the process cheese spreads in re-usable glass containers. Nine Kraft spreads are now appearing in a new series of decorated glasses with forget-me-nots in two-color combinations, giving housewives four additional units to add to their collections of 5-oz. glasses. The forget-me-nots are red, yellow, navy blue and light blue, with green leaves on the stems and around the lower edges of the glasses. These distinctive flower designs have proved popular drawing cards in food store dairy displays.

A new type of package for a sharp natural cheese that has gained wide favor is Borden's Pippin Roll. This is comprised of a foil-wrapped roll of cheese inserted into a paperboard canister, with outer foil wrap-around label to give greater protection and added eye appeal. The package is designed for convenience, in that the housewife merely pulls out the paper disk at one end and pushes the cheese through the cylinder, ready for slicing off in desired rings just the right size for round or small square crackers. Pippin Rolls are shipped six to a convenient counter display carton.

CREDITS: ***The Borden Co.:*** *Plastic containers, Tri-State Plastic Molding Co., Henderson, Ky., molded of Dow Chemical's polystyrene. Pippin Roll—foil, Reynolds Metals Co., Richmond, Va.: canister, The Cleveland Container Co., Cleveland, Ohio.; display carton, Fort Orange Paper Co., Castleton-on-Hudson, N. Y.* ***Frank Ryser Co.:*** *Polyethylene poker-chip package, Tupper Corp., Farnumsville, Mass.* ***June Dairy:*** *White ash bowls, Ellenville Wood Novelty Co., Inc., Ellenville, N. Y. Aluminum serving pieces, Royal Metal Products Co., Long Island City, N. Y.* ***Kraft:*** *Re-use glasses, Hazel-Atlas Glass Co., Wheeling, W. Va., and Owens-Illinois Glass Co., Toledo, Ohio.*

WHITE ASH BOWL with wooden cover (far left) adopted by June Dairies makes a handsome gift container which can be re-used for flowers or ivy. It is sold in 1- and 2-lb. sizes. Aluminum serving pieces (left) have become popular carriers for assortments of gift cheeses. This contains variety of Blue Moon cheeses, wrapped in cellophane, decorated with ribbon.



FLEXIBLE BACKGROUND can be adapted to any industry for the same basic product. Cans are lithographed in three colors, which may be changed for further differentiation between products.

PICTORIAL DIRECTIVES

A manufacturer of industrial cleansers uses clever illustrative device on packages to promote the same product in numerous fields

A new way of using package design to direct a product to specific merchandising channels has been adopted by the Penetone Co., Tenefly, N. J.

For many years this company has been marketing liquid cleansers and degreasers to various industries—marine, construction, agriculture, etc.—under the same packaging and labeling to all industries.

National sales have been high, but not high enough to satisfy the sales department. Recently a series of questions was prepared and submitted to key purchasing agents in different major industries. This questionnaire included seven points regarding product uses and four questions concerning reactions to package appearance. A résumé of the answers obtained in a three-month study indicated one salient fact: A single package design, although well executed, did not have appeal for all industries.

Purchasers of liquid cleansers in marine industries, for example, did not know immediately from a package that did not specify marine use that the product was suitable for their purposes. The same situation applied to cleansers suitable for other industries.

A designer was called in to develop a package design that would suggest the use of the same basic product in different industries. The design had to have the additional advantage of adaptability to uses in new fields.

A basic theme was selected with enough elasticity to accommodate future avenues of merchandising. It provides an over-all background that can accommodate any number of symbols, suggestive of various industries, so that each package may have an illustrated association with the particular industry that uses the product.

The cleanser is suggested for use in all types of building maintenance by a package background picturing various types of buildings—a factory, office building, apartment house, school house, etc.

The cleanser is associated with marine cleaning by a package background that pictures all types of vessels—liner, freighter, warship, ferry boat, pleasure cruiser, etc.

Although these illustrative symbols are only suggestive stylized backgrounds, they were planned with the greatest care so that there could be no possible criticism by the personnel of the various industries. This was especially important for the marine packages. Seagoing personnel is very critical of marine architecture and thus would be skeptical of any product that carried landlubber ideas of ships on the package. Drawings of the boats and ships, therefore, were not completed before 37 carefully selected photographs were enlarged for scrutiny of small details.

By using three colors on all products, instead of two, as on the original packaging, a working plan was adopted, in cooperation with the lithographer, whereby a greater number of contrasting combinations could be obtained at only slight increase in production cost.

Since each industry requires different directional copy, the designer has planned the format of the package design so that all such copy can be placed on side panels, thus not interfering with the front-panel design.

CREDITS: *Design, E. Leonard Koppel, New York. Metal containers, National Can Corp., New York. Lithography, A. W. Young Printing Co., New York.*

DESIGN

CARTONS SALES BUILDERS

The Jay Co., Washington, N. J., has been packaging its Jaco comb and brush cleaner for 25 years. The original package was a glassine envelope. Later, the company adopted a bin-type display package—a cellophane envelope stapled to a card. But this was not entirely satisfactory. The envelope became detached from the card and the package did not have sufficient eye appeal. Recently the company adopted a colorful magenta and black printed window carton for the individual units and a counter display carton to hold 3 doz. individual packages. Since the cleaners come in seven colors, the transparent window permits quick color selection. The back of the carton provides ample space for diagrams to show how to use and wash the cleaners.

CREDIT: *Cartons, Acme Folding Box Co., New York.*

AN ORANGE, BROWN AND GOLD FAMILY

The merchandising advantages of an easily recognizable package family are well known. Choice of design, however, is greatly influenced by its ability to emphasize a brand name and its adaptability to various sizes and shapes of containers. Simplicity and flexibility are revealed by these new packages for Woolson Spice Co.'s Golden Sun brand of spices. The eye travels from the rectangle at the upper left, printed in orange with brand name in reverse white, to the gold-colored circle carrying product name and weight. Firm name is in border at bottom. Background is brown.

CREDITS: *Design, Edwin W. Fuerst, Toledo, Ohio. Cans, American Can Co., New York. Cartons, Consolidated Paper Co., Monroe, Mich.*

HISTORIES

INSERTS PAVE THE WAY

The Godefroy Mfg. Co., St. Louis, paved the way for its new Larieuse Hair Coloring package—the first package change in 50 years—by a series of inserts slipped into the old packages. Pictures and copy on the insert told customers a new package was coming, but that the product and price would remain the same. Gradual transition was accomplished by changing the color of the old carton to that of the new and then by putting the new label on the old bottle. New cartons have a die-cut spot on the front panel, allowing a section of label on which color of bottle's contents is printed to show through, thus assuring customers of getting the right color.

CREDITS: *Cartons, Superior Folding Box Co., St. Louis, Mo. Labels, Hart Printing Co., St. Louis, Mo. Bottles, Obear-Nester Glass Co., East St. Louis, Ill. Closures, Crown Cork & Seal Co., St. Louis, Mo.*

MODERNIZED FOR THE PLUMBING TRADE

These new individual folding cartons for Black and White Metal-Fix, packaged three to a modern counter display unit, have increased sales 25 to 30% in three months. This mixture, used to repair cracks and leaks in metals, is now a product that dealers of plumbing and hardware supplies can put on the counter and users can take away in cartons that stress "Metal-Fix—the original Black and White." Metal-Fix was packaged for years in wooden boxes that cost about 15 cents. Sticks of the mending material were placed loose in the box, held together only by a wrap-around instruction sheet. New package assembly costs 20% less.

CREDITS: *Design, William V. Schusterman, New York. Cartons, Eastern Display & Carton Co., New York.*

PLANNED PACKAGING

It enables maker of transformers to put 175 different products in just four packages

1. THESE FOUR two-piece, telescoped folding cartons, with proper label and inner packing, handle the company's entire line. Also shown are pre-cut corrugated strips and pads and printed gummed tape—all carefully engineered for utmost economy and protection.

2. PACKAGING OPERATION at Chicago Transformer. Worker at far end of table checks transformer against chart to determine the correct type of carton and packing to be used; second girl wraps the item in flexible corrugated board and binds it with tape; third girl assembles the carton and inserts the proper transformer; fourth girl completes the packing operation, inspects and closes the finished box.

Accommodating 175 types and sizes of product in four basic packages and insuring that each item receives the kind of protection required for that type of equipment constitutes the kind of packaging program that only intensive planning can produce. Chicago Transformer Division of Essex Wire Corp. has successfully accomplished these goals and in addition has come up with a line of packages distinctive in design and with ready identification of the various units covered by the program.

One of the interesting features of the new program is the use on the packaging line of a specially designed chart (Fig. 4) which makes possible immediate selection of the proper package size and internal packing for each item, even though widely mixed shipments are being prepared. Although Chicago Transformer is concerned only with transformers, this is an idea that might be widely useful in many product lines.

"Individual packaging of transformers is an entirely new and comparatively recent problem for Chicago Transformer," R. F. Cheney, advertising manager, explains. "For 20 years, we have been almost exclusively manufacturers of transformers specially designed and produced in quantities for radio-set manufacturers. For this reason, up until the addition of stock lines to our lines of CT products, all had been shipped in bulk in nested corrugated cartons."

Two stock lines of transformers requiring individual packaging were recently introduced almost simultaneously. These included a line of control and power circuit transformers and a new equipment radio transformer series, both in a range of sizes. The packaging

problem was further complicated by the fact that each of the lines had distinctive types of transformer mountings.

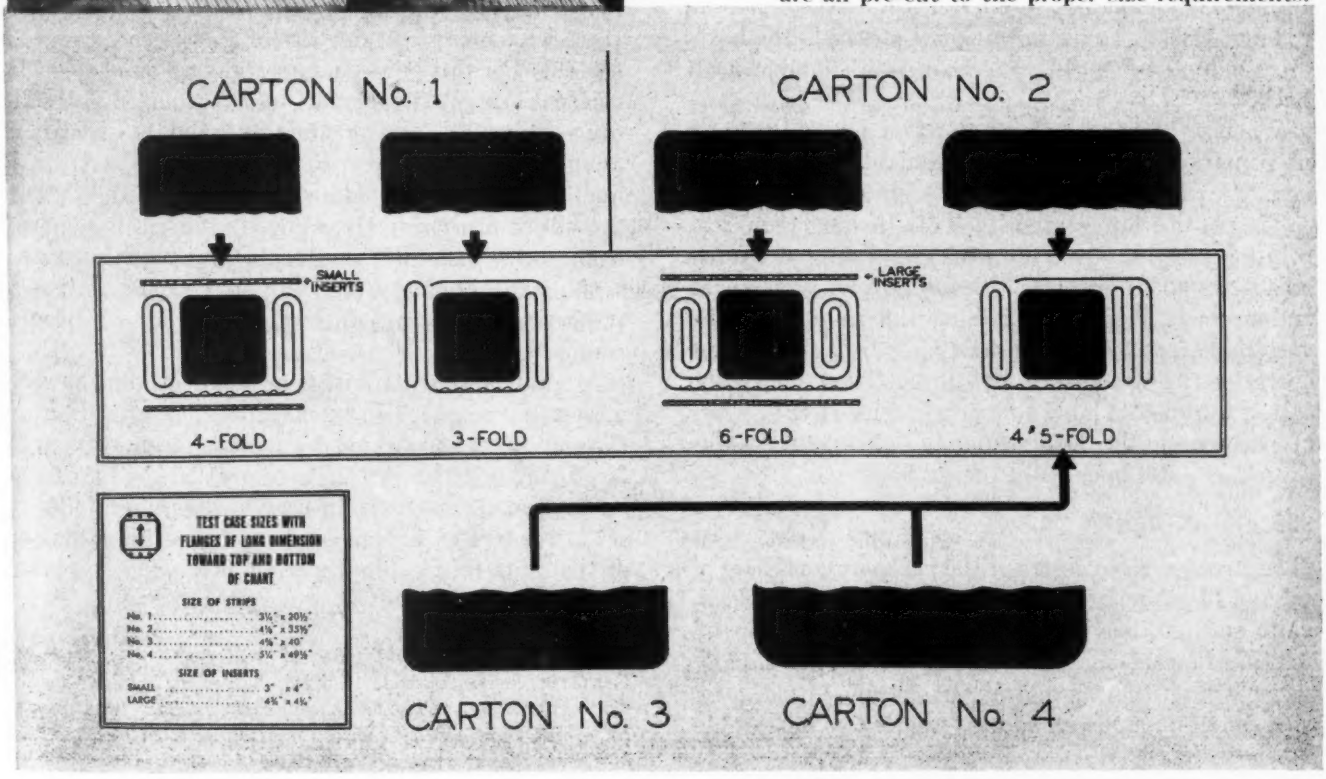
A third series, which will consist of a replacement line, is also scheduled for introduction this fall and is now being cataloged and packaged. Two types of units in this line, also of distinctive size and shape, are accommodated in the original set of cartons. The control and power circuit line is distributed through electrical wholesalers, while the other two lines are distributed through radio-parts jobbers.

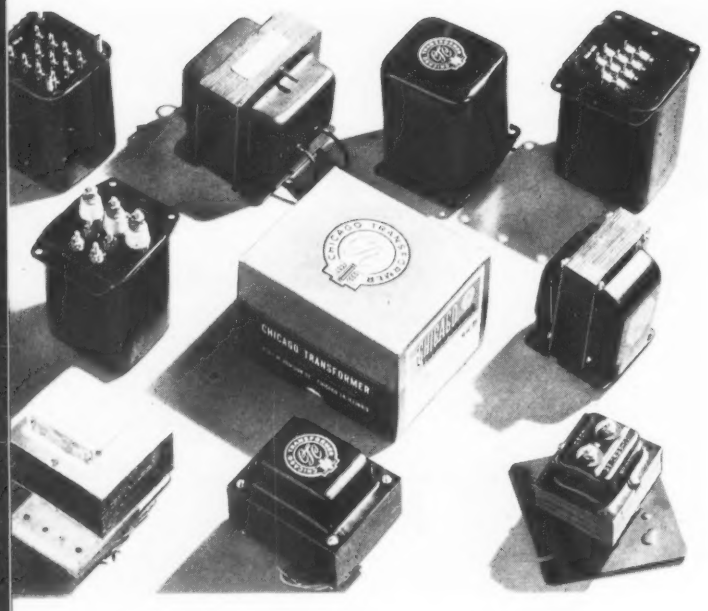
Several basic considerations shaped the development of the new packaging program as conceived by Mr. Cheney and the shipping foreman, A. Nieminski. These considerations included the following significant points:

1. Storage space. Since special packaging facilities were not available, cartons had to take up as little room in the plant as possible.
2. Simplicity of assembling, inserting, labeling, etc. This job had to be handled by a shipping staff unfamiliar with individual packaging techniques.
3. Strength of cartons. A particularly important point, since some of the transformers weigh as much as eight or nine pounds.
4. Economy of inventory. Carton sizes had to be reduced to the smallest possible number consistent with effective packaging.
5. Attractiveness. Good display and company identification on the jobbers' shelves were imperative.
6. Legibility of labels. For quick selection of desired transformer type and size, the label had to include considerable technical information, presented in a clear, easy-to-read fashion.
7. Compactness on jobbers' shelves. With space at

3. CHART tells by visual comparison which of the four carton sizes to use for the particular transformer and also details the inner packing.

4. CLOSE-UP OF CHART. Note that there are two prescribed methods of inner packing to accommodate different sizes in each of the two smaller cartons. Corrugated strips and the inserts are all pre-cut to the proper size requirements.





5. ONE CARTON handles the nine different shapes and sizes of transformers shown, with details of packing charted so that there can be no question or delay in the packaging operation.

a premium, it was important that the packages be kept as small as possible.

8. Ease of re-inserting. Inner packing had to be arranged so that transformers removed from cartons could be replaced by the customer with a minimum of effort.

Basic package type

The basic type of package decided upon was a full telescoping folding box with cover printed letterpress in red and black. To insure adequate strength, the boxes are produced of 0.040 paperboard with double kraft back.

When set up, the package affords a double thickness of paperboard on top and bottom and triple thickness on each side of the carton.

The use of white coated stock results in a crisp, clear printing job that gives the packages snap and sparkle on shelves and in displays. Depth of color is enhanced and protection against handling soilage attained by varnishing the covers after printing. In the varnishing operation, a "window" is left on the label end of the carton to promote label adhesion and assist the packer in positioning the label squarely. Notching of the cover facilitates opening of the package.

Surface design

The strong surface design of the package, consisting of red and black horizontal bands with lettering in black, white and red, has high recognition value. Company identification is assured through the use of the company trademark on the top and at one end of the package, with the firm name and address on the two longer side panels of the cover.

The gummed labels, which are also printed in red and black, fill the remaining end of the package cover except for a suitable border.

Two factors dictated the use of separate labels in preference to transformer identifications imprinted directly on the cartons. First, because of the newness of the line, it was impossible to forecast relative sales of the various items and order in advance the correct number of packages for each. Secondly, it was felt that a sparkling white on the label, as compared to the off-white of varnished coated board, would increase visibility and, by sharp color contrast, give the package additional eye appeal as it faced out on the jobbers' shelves.

Primary and secondary voltages, insulation tests and other technical information on the labels are listed according to a set formula, with 14-point caps employed on key words for complete legibility.

Packing chart

Obviously, the use of four carton sizes for 175 different transformers necessitated some sort of key or guide for those doing the packaging. To meet this problem, Mr. Cheney devised the chart shown in Fig. 4 which gives the packer all required information in a matter of seconds.

To use the guide chart, the packer merely places directly upon it, in the specified position, the transformer to be packaged. When the transformer is matched to the correct "shield" size on the chart, the packer can read directly from it the carton designation, size of corrugated padding strip required for that item and method of folding the strip to provide the necessary inner protection.

A simple and flexible type of padding was required, particularly in the new equipment radio line, where there were more than one size of transformer case to a carton. For this purpose, four standard sizes of single-surface corrugated paper strips are employed, folded in different ways to pad out the various units. A strip of gummed tape, printed with an advertising message, is applied to bind the padding material together. This provides a firm protective sleeve that is easily removed from the transformer and replaced by the customer wishing to examine a prospective purchase. All such protective strips and inserts are purchased by the company pre-cut.

Mounting studs, terminals or lead wires on the various transformers, which extend from one end of the case-type units, are protected by narrow strips of double-faced corrugated board. These are coiled in a ring at one end of the carton. In certain sizes, an additional set of corrugated inserts is placed beneath and on top of the units to provide firmer support. The cartoned transformers are grouped in corrugated containers for shipment.

CREDITS: *Folding cartons, Acme Paper Box Co., Chicago. Labels, Monogram Press, Chicago. Shipping containers and pre-cut corrugated padding, Ajax Box Co., Chicago. Printed gummed tape, Mid-States Gummed Paper Co., Chicago.*

ACETATE WINDOW in shape of the beret allows product colors to be seen. Line drawings on each side of the paperboard folder line up to make series of Eiffel Towers when the packages are placed side by side for display.

PARIS IN A PACKAGE

Attractive folders for berets, formerly sold in bulk, show what clever packaging can do to boost the sale of soft goods

The increasing importance of packaged merchandising for soft goods lines is well illustrated by the new packages for Paris berets, imported and distributed by E. Stern & Co., New York. Since adoption of the packages, the company says, sales have increased 33% over a three-month period.

For years this internationally popular headgear, native of the Basque country, has been imported in bulk and sold just that way in the retail stores. Usually the berets are piled high on store counters or on back-of-the-counter shelves, according to color and size. They are moderately fast turnover items and troublesome to sales people, who must continually keep them sorted and piled up. The counter problem is the worst, because shoppers paw over the berets, try them on, get them soiled and never put them back in the right place.

Except for a possible label inside the beret, there is also no way to promote the berets by brand name.

E. Stern & Co. believed they could get greater acceptance for their imports by giving the plus value of a package that would make the berets easier to handle, eliminate shop wear and, at the same time, assure the shopper a fresh untried-on beret. The package properly designed could also help to do a selling job.

Early this year, the company studied the problem and considered several types of packages—envelopes, cartons and boxes. The package finally selected is a die-cut paperboard folder with lock tabs. This holds the beret flat and firmly so that it does not get wrinkled or soiled and provides convenient rigidity for handling.

The interesting surface design adds greatly to the attractiveness of the berets on display. The central point of interest is the design of a little girl's head, wearing the beret, made realistic by a window of die-cut transparent acetate in the shape of the beret through which a portion of the actual beret may be seen. This not only adds to the eye appeal of the package, but permits immediate identity of the color of the beret.

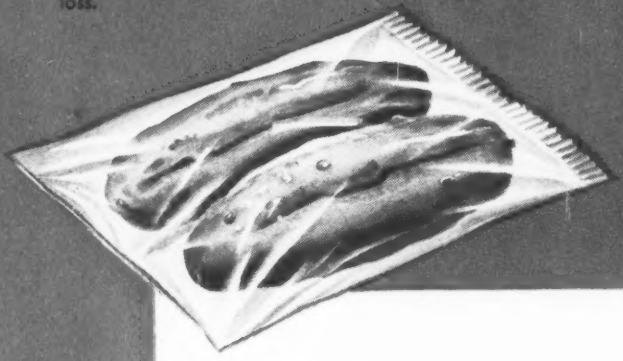
The association of the beret with the Paris brand name is conveyed quickly by line drawings on each side of the folder representing just half of the Eiffel Tower. When the packages are lined up for display, the halves join to form a series of complete Eiffel Towers alternating between the illustrations of the little girl. Smaller sketches of a little boy and girl at each side suggest that the berets are suitable for both boys and girls. Folders are printed with rose beige backgrounds and illustrative effects in deep blue—two colors which blend with the colors of berets showing through the acetate windows. A place for marking sizes is provided on the back.

The berets retail in such outlets as Marshall Field and Best & Co. for $1.29 and $1.50. The package probably costs the distributor several cents, which he must absorb in his wholesale selling price competitively with firms who distribute berets unpackaged. Does it pay? Here are the figures: The original order was for 50,000 packages. Within three weeks, the importer had to order more folders. He estimates that in three months the packages have increased his sales 33%.

CREDITS: *Design, William V. Schusterman, New York. Paperboard folders, Blum Folding Paper Box Co., Brooklyn.*

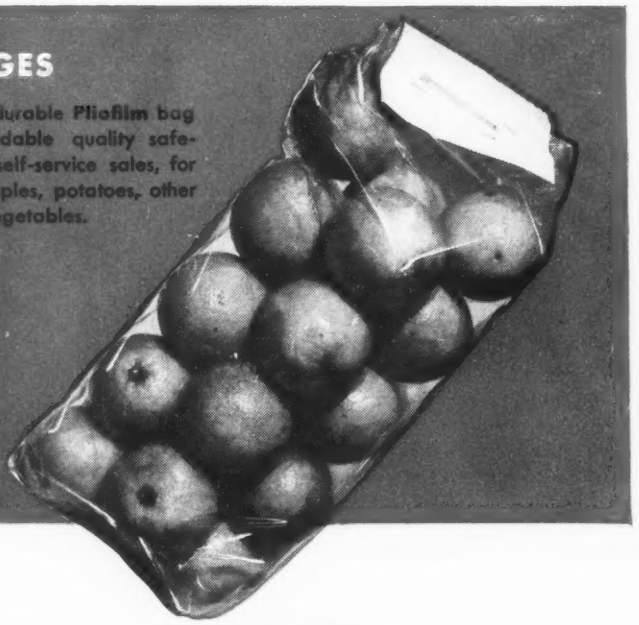
PICKLES

In this liquid-tight **Pliofilm** package, pickles, olives, sauerkraut, oysters and similar juice-laden foods are wrapped in their natural brines, with complete protection against leakage or flavor loss.



ORANGES

This strong, durable **Pliofilm** bag is a dependable quality safeguard for self-service sales, for oranges, apples, potatoes, other fruits and vegetables.



Eight problems—ONE answer in Moistureproof Food Packaging

FRESH VEGETABLES

In **Pliofilm**, celery, lettuce, carrots, corn, spinach, all manner of fresh vegetables reach market in garden-fresh color and crispness — without shrinkage or wilt.

DRIED FRUITS

Dried peaches, pears, apricots, raisins, prunes, figs, dates are hermetically sealed and preserved by air-moisture-liquid-tight **Pliofilm**.

BAKERY PRODUCTS

In **Pliofilm**, filled cookies, crackers, Stollen, brownies, keep fresh and crisp till eaten. Cream-filled cookies hold the moisture content upon which their goodness depends.

COFFEE

Coffee keeps at peak of goodness in this hermetically sealed Flav-O-Tainer bag lined with **Pliofilm**. So do teas, spices, raisins and other perishable products.

HERE are a few of the many foods now kept flavor-right in transparent **Pliofilm.**

This wonder wrap is air-moisture-liquid-tight. It keeps wanted moisture *in*, unwanted moisture *out.* That's why it's looked upon by dealers and consumers alike as assurance of high quality.

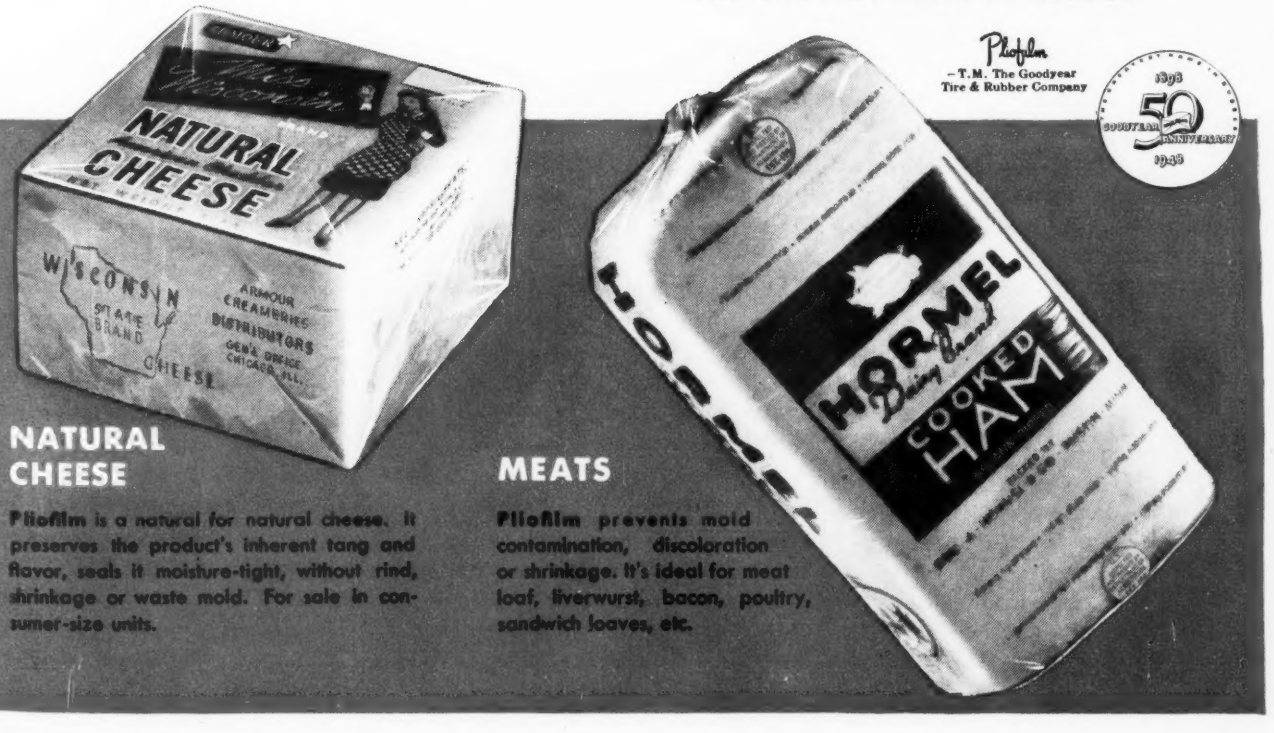
Why not put this salesmaker to work for you? For further information, write: Goodyear, Pliofilm Dept., Akron 16, Ohio.

Everything is better in Pliofilm

3-way protection against air, moisture, liquids

GOODYEAR

THE GREATEST NAME IN RUBBER



NATURAL CHEESE

Pliofilm is a natural for natural cheese. It preserves the product's inherent tang and flavor, seals it moisture-tight, without rind, shrinkage or waste mold. For sale in consumer-size units.

MEATS

Pliofilm prevents mold contamination, discoloration or shrinkage. It's ideal for meat loaf, liverwurst, bacon, poultry, sandwich loaves, etc.

IMPRINTED by manufacturer with trade name, this sawed-off kraft bag with a handle makes an inexpensive carry-home package for holding six cans of Man Kind dog food.

GROCERS USE plain-handle bags as pre-package for potatoes, apples and onions. In markets like this Piggly Wiggly in Portland, Ore., the convenience appeal upped sales impressively.

STRAP-HANDLE

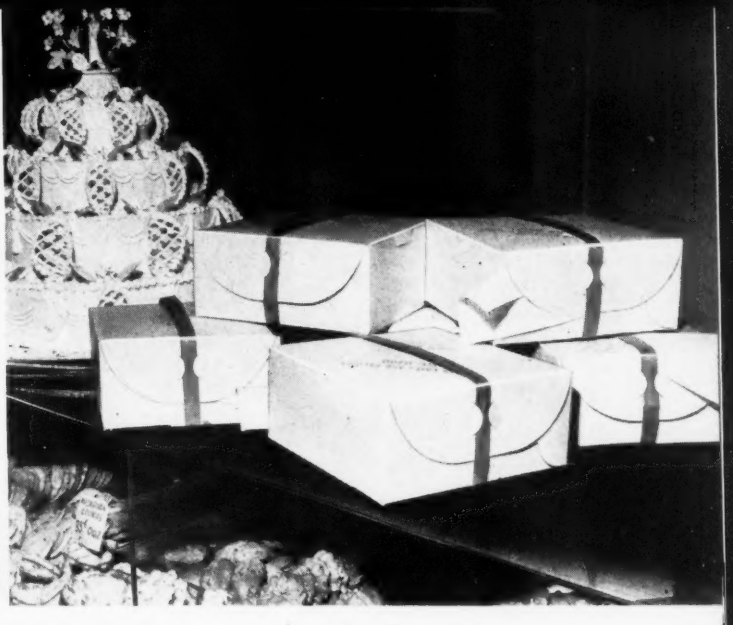
Every food retailer knows the advantages of the pre-pack for multiple-unit sales. The package with a handle seems to say "Pick me up and take me home" and makes it easy for the housewife to purchase half-a-dozen or dozen quantities. The retailer benefits not only from the larger sale in a single handling, but also by the elimination of bagging or wrapping at the check-out counter. These facts have been established by long experience with such pre-packs as the familiar bottle carrier for soft drinks.

Until recently, however, the retailer has lacked a universal carry-home container applicable to almost any packaged item for which it was desirable to encourage multiple-unit sales. Now a West Coast inventor has come up with a strong, simple, paper handle which can be mechanically attached to any kraft bag or paper carton by adhesive or otherwise. These bags and boxes with handles are becoming increasingly popular in the West and in certain areas along the Atlantic Coast and in the South. They may be supplied by the manufacturer of a packaged item and imprinted with his sales message, or they may be plain bags simply purchased by the retailer as a convenient means of pre-packaging, for example, 9 lbs. of apples or 16 lbs. of potatoes.

The first bag was a single-strap model launched in restricted territories through regular paper jobbers in Portland, Ore., where the original plant producing them is located. Following this, distribution has been made in eastern and western Washington, California, Omaha, Miami and other Atlantic territories. According to the manufacturer, the Los Angeles area alone is using a million bags a month with demand for the entire Pacific Coast exceeding capacity. Labor cost for applying strap handles to bags is far lower than for applying conventional round paper handles, it is said. The strap itself, folded by machine, requires no glue or other fastening to hold it in shape and is inexpensive to manufacture. The resultant savings from low manufacturing cost make it possible for the bags to be used in grocery stores for pre-packaging (particularly bulk and canned items) where otherwise the pre-packaging cost might be too high.

For processors of canned and bottled goods, the paper-handled bags afford an economical package with obvious merchandising advantage for multiple-unit sales. The bag complete with handles, which can be shipped to dealers flat, may be printed with product brand names and advertising copy. For example, the manufacturer of Man Kind dog food is using 60,000 printed bags, each containing six cans of dog food—a week's supply—as a special promotion backed with a Northwest-area advertising campaign. The theme of the advertising copy is "The Northwest's favorite in Handy-6 bags . . . buy a week's supply in this handy new money-saving package." PictSweet Foods, Inc., has entered into a test campaign for the pre-packaging

TWO HANDLES can be used for heavy weights such as bottled soda. This bag is equally suitable for four or six bottles. Strap handles tend to bind the bottles into position.



NEW CAKE BOX uses an adaptation of the paper strap handle. Notches at the sides prevent slippage of the strap. Boxes open flat at back and can be stored flat.

BAG

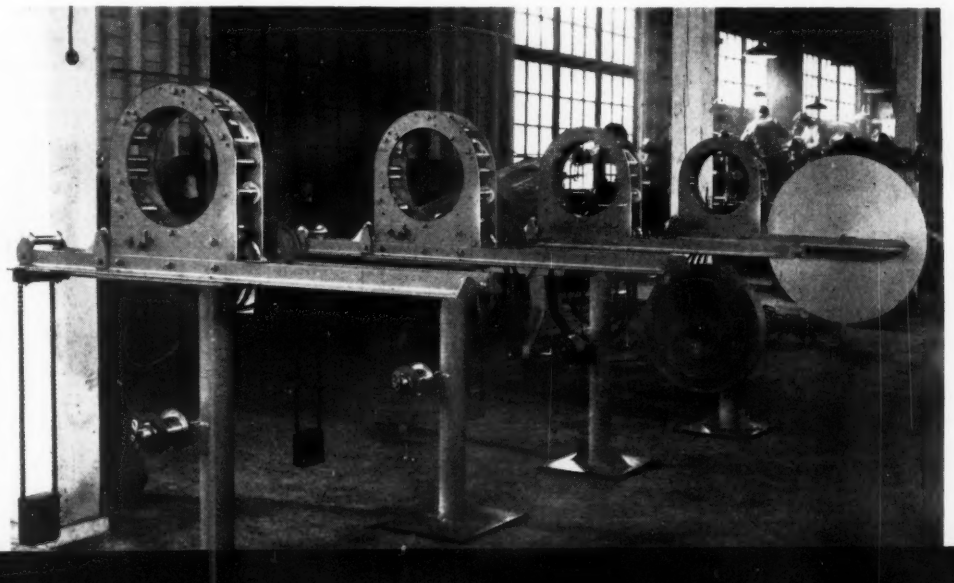
West Coast development provides universal carry-home container to encourage multiple sales of almost any type of food-store item

of canned corn and peas. Interest has also been shown in this type of package as a carrier for six 12-oz. cans of beer. The pre-packaging can be done prior to casing by the manufacturer or by the retailer himself.

The paper-handled bags have been found to up sales spectacularly when used for pre-packaging apples, potatoes, onions, cantaloupes, etc., according to reports from such volume chain stores as Fred Meyer's in Portland. In one store 19 boxes of apples were sold in less than 24 hrs. when they were pre-packaged in the bags; normal sales had been approximately five boxes in the same period. When the stores tried packaging potatoes in the paper-handled bags, sales jumped from one sack a day to 75 sacks a week and then up to 100 sacks a week, where they remained.

Von's Grocery Co. in Los Angeles, one of the outstanding West Coast style supermarkets, is reported to be installing automatic filling machines in order to expand the use of bags for carry-home packages of fresh produce. Von's have stated that whenever they want to move a carload of potatoes, they pre-package in handled bags.

Double-handled bags for carrying bottled beverages are said to hold two, four (*Continued on page 202*)



STRAP-FORMING machines in supplier's plant. Another automatic machine attaches straps to bags. Folded construction gives paper straps strength to carry 100 lbs., it is claimed.

1

2

3

MODERN

4

5

1 Private mold finger-grip bottles in four sizes, designed to minimize the possibility of slipping out of the hand, hold the new Cashmere Bouquet hand lotion now being marketed by Colgate-Palmolive-Peet Co. Plastic closure and label are delicate feminine blue to accent the flesh pink shade of the lotion. Bottles, Owens-Illinois Glass Co., Toledo, Ohio. Polystyrene closure, Mack Molding Co., Wayne, N. J.

2 Line up four Park & Tilford Reserve cartons and they make a display, revealing an old New York scene where the original store was established at 35 Carmine St. in 1840. Each side of one carton forms one panel of the scene. The new cartons, designed for year-around use, are appearing for Christmas. Cartons, American Coating Mills, Div. of Owens-Illinois, Elkhart, Ind.

3 A new shamrock trademark serves as inspiration for the label redesign of Beverwyck Breweries, Inc., Albany, N. Y. The name is centered in a white shamrock; directly above appears a small green one, while another is on the neck label. Gold bronze color is used for the label background, with lettering in black. Design, Edward P. Diehl, New York. Labels, Gamse Lithographing Co., Inc., Baltimore, Md.

4 A rigid carrying handle is an integral part of the folding carton in which Polan Plastics, Inc., packages its plastic garden hose. The carton is a five-panel, straight tuck, with fifth panel providing the handle. Packages can be nested in the shipping container in units of six, 10 or 12 without lost space due to the handle design. A guarantee certificate, printed on the carton, is perforated for easy removal. Length of hose (both 25 and 50 ft. can be packed in carton) is printed in white patch below guarantee. Cartons, Robert Gair Co., Inc., New York.

5 Visibility packaging with colorful accents that give family identity is winning many new customers for Fleetwood Baking Co., Mt. Vernon, N. Y. Their new Peter Pan line of baked goods for independent stores comes in transparent window cartons and cellophane overwrapped trays printed in rose and dark brown. Thermoplastic labels complete the packaging. Printed wraps for bread will soon join the family. Cartons and trays, Sutherland Paper Co., Kalamazoo, Mich. Labels, Oliver Machine Co., Grand Rapids, Mich. Cellophane, Du Pont.

6

7

PACKAGING PAGEANT

6 Corrugated paper packets for individual servings of salt, like individual servings for sugar, are now available for institutional use. Sold by Diamond Crystal Division of General Foods, each packet contains four servings of salt. To use, simply bend back on the dotted line of the packet top. Private label imprints at some increased cost will be offered, according to the company. Packets, Chelsea Carton Co., Chelsea, Mass.

7 Borden's famous Elsie and her family now help milkmen sell chocolate syrup. Four glass tumblers containing the syrup and decorated with applied color designs of Elsie, Elmer, Beulah and Beauregard are packaged in a lithographed carton. Mother has a new set of glasses after the syrup has been consumed and the children enjoy the carton cut-outs. Tumblers, Owens-Illinois Glass Co., Toledo, Ohio. Caps, White Cap Co., Chicago. Carton, American Coating Mills, Div. of Owens-Illinois, Elkhart, Ind.

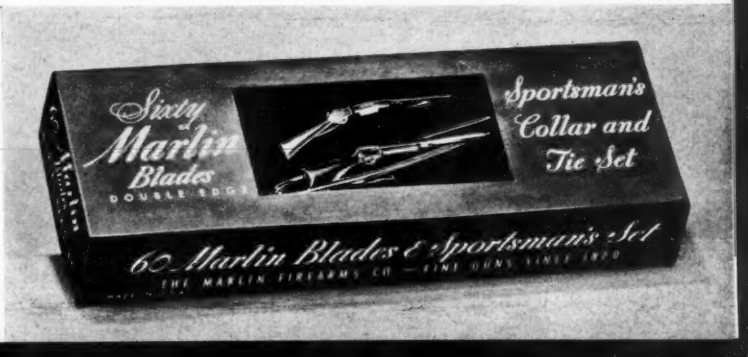
8 Individual cartons of quick frozen chicken parts—legs, breasts, wings—is a new merchandising idea introduced by C. A. Swanson & Sons, Omaha, Neb. Uniformity of weight (1-lb. net) puts pricing on a standard basis. The cartons are laminated with moistureproof cellophane on the inside and overwrapped with cellophane. Cartons, Marathon Corp., Menasha, Wis.

8

9 Making the contents part of the package design may sometimes be accomplished when transparent packages are used. Eppley's Pop Corn Co., Indianapolis, Ind., uses duplex cellophane bags printed so that when they are filled the design gives the impression of two ears of corn. Bags, Milprint, Inc., Milwaukee, Wis.

9

10 To stimulate blade sales, the Razor Blade Division of Marlin Firearms Co. has devised a premium gift window package combining a gold-plated, collar-and-tie set in a box with 60 razor blades. Box is printed in two colors and has a cellophane overwrap. Box, Warner Bros. Co., Bridgeport, Conn.



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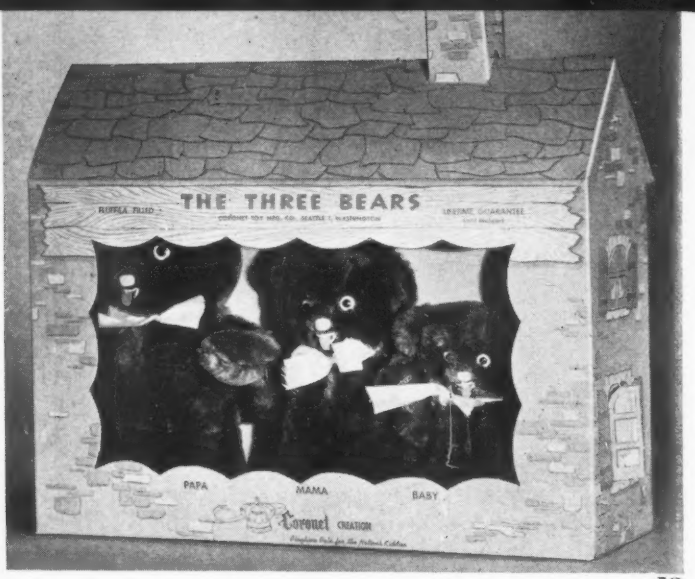


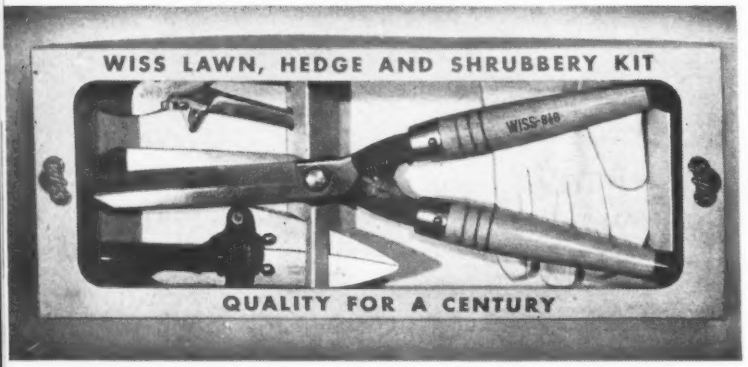
12

MODERN PACKAGING

13

11 A 1-lb. box of crackers subdivided into four 1/4-lb. units, individually wrapped in moistureproof cellophane and packed four to a carton is opening up new merchandising possibilities in the marketing of soda crackers. These "meal-size" units, put out by Schultze & Burch Biscuit Co., Chicago, are produced on completely redesigned wrapping machinery which permits wrapping and sealing of loose crackers without a bottom card, tray or other support. Wrapping equipment, Battle Creek Bread Wrapping Machine Co., Battle Creek, Mich.

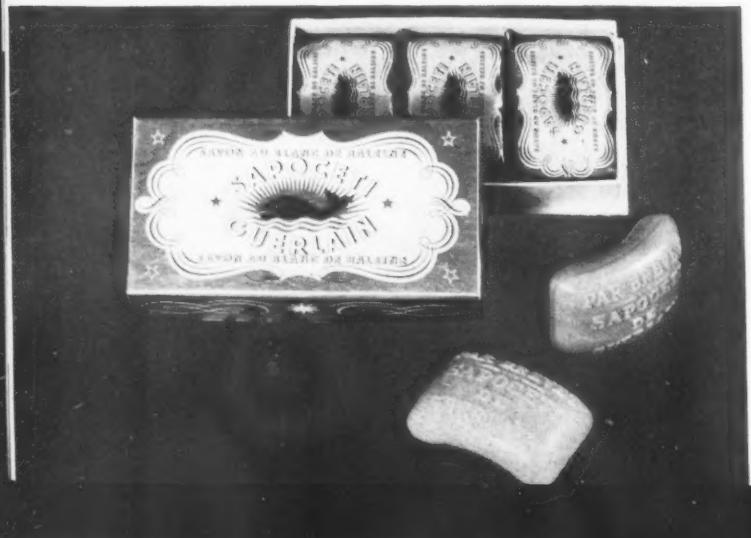
12 This Three-Bear family is literally housed in a window box with spacious transparent panel of acetate. The package, adopted by Coronet Toy Mfg. Co., looks like a miniature house, complete with paperboard chimney and windows that open. Box, Eagle Box Co., Tacoma, Wash. Acetate (Lumarith), Celanese Corp. of America, New York.



14

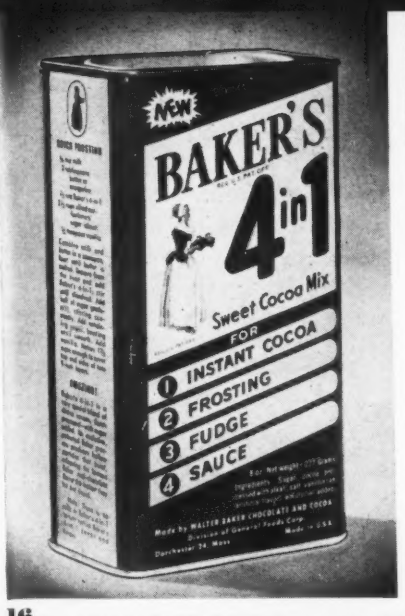
13 An aluminum foil tight-wrap for Calgonite, a water conditioner made by Calgon, Inc., is reported to be giving greater protection than a pre-war canister, to be be much less subject to shipping damage and to withstand prolonged warehouse and shelf storage without harm to contents. In addition, the foil surface adds greatly to the package eye appeal.

14 Many a gardener will welcome this convenient set of garden tools packaged in a single gift kit by J. Wiss & Sons Co. The assortment of hedge shears, grass shears, pruning shears, work gloves and pruning guide are held in the green and yellow printed two-piece folding box by a scored and folded platform. All items may be seen through the transparent acetate window. Box, Keystone Folding Box Co., Newark, N. J.



15

15 Guerlain's toilet soaps, famous for more than a hundred years, have been reintroduced in the United States for the first time since the war in these slender foreign-made boxes of modern design, which maintain the traditional character of a product that originated in 1830. Three cakes to the box are each in a wrapper of the same color and design as the box.



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G PAGEANT

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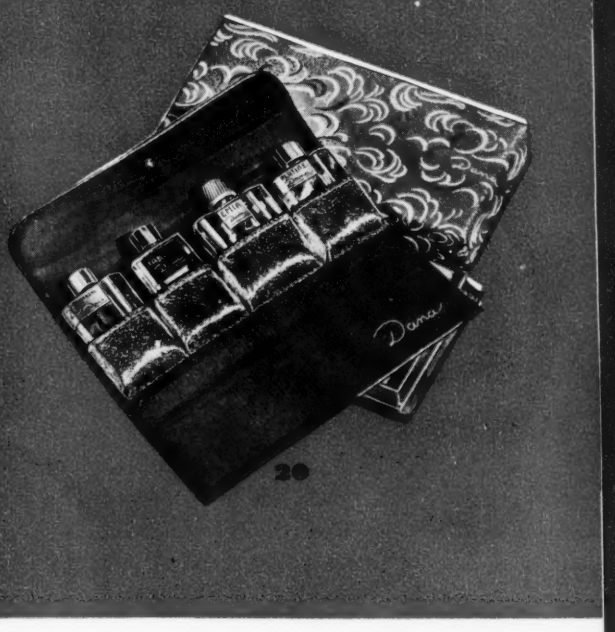


20

16 Telling a four-way use story for a product on the small face of a package is never easy. How it was done effectively for "Baker's 4 in 1 Sweet Cocoa Mix" is illustrated by the package for this new Walter Baker Div.-General Foods product from which can be made instant cocoa, frosting, fudge or chocolate sauce. Four diagonal bands, below the trade and brand identification panel, tell the story. The package is a metal-end fibre can with paper wrap-around label. Side panels carry suggested recipes. Can, American Can Co., New York.

17 The infinite attention to subtle details that spell success for famous brands is indicated by the new private-mold bottle for Heinz ketchup. The new bottle has the same over-all dimensions, but "more individuality, a more graceful neck and streamlined appearance to set it apart from bottles of former years." The Heinz chili sauce bottle is similarly improved. Bottles, Anchor-Hocking, Brockway, Hazel-Atlas, Owens-Illinois and Tygart Valley Glass Co. Closures, White Cap Co.

18 E. Kahn's Sons Co. has introduced its shortening to the consumer trade in 1- and 3-lb. lithographed pry-up cans carrying the familiar red, white, blue and yellow stripe-design arrangement used in marketing their lard and meat products for years. Lithographed cans, Heekin Can Co., Cincinnati, Ohio.

19 Iridescent, pyroxylin-coated cover paper imparts not only new eye interest to new Glen Raven hosiery boxes, but eliminates the necessity of varnishing. New Glen Raven trademark in magenta and green blends with iridescent background and is repeated on inside packaging items—printed cellophane bag, band to hold the pairs of stockings together in the box and tissue in which hosiery is wrapped. Design, Allcolor Co., Inc., New York. Cover paper (Pyrodescent), Holyoke Coated & Printed Paper Co., New York.

20 In keeping with the trend toward popular-priced units in luxury perfumes, Dana Perfumes, Inc., this year has introduced its leading scents in miniature sizes, four of which are fitted into this gilt kid case. The miniature bottles contain ⅛oz. each of four different Dana perfumes—20 Carats, Tabu, Emir and Platine. Case is holiday boxed. This is one of 10 Dana gift sets offered for purchase without overstepping the Christmas shopping budget this season.

OVERWRAPPED CAN

Joint development by three suppliers gives this frozen food packer the utility of a stock fibre-body can with the eye appeal of full-color printed cellophane wrap

APPETIZING full-color photographic reproductions of the product, rotogravure printed on the reverse side of the cellophane overwrap, give Kale's frozen foods packages eye appeal which had previously been impossible with a waxed fibre can. Note heat-sealed tucks on ends of cans.

A new type of frozen food package—the metal-end, fibre-body container completely overwrapped with gravure-printed cellophane—has been developed in the Pacific Northwest and has been put to first commercial use during the past season at C. S. Kale Canning Co., Everson, Wash.

The package combines advantages from two separate lines of development in the frozen food industry. One development produced the now-familiar rigid fibre container with metal ends that permitted use of high-speed automatic filling and closing equipment. The other, earlier development brought the cellophane overwrap with full-color, reverse-side printing of realistic product reproductions and high eye appeal. These beautiful overwraps have, of course, been widely applied to square-end paperboard cartons, but until now nobody had found a practical way of applying them to the new frozen food container with its recessed metal ends, which has been handicapped in eye appeal because, if lithographed, its surface is dulled by a wax coating.

The new combination retains the advantages of each development and also enables a packer to label his product after it has been frozen and stored. It thus gives far greater flexibility in handling the pack and in inventory of packaging materials. Only plain, unlabeled cans need be stocked.

Packers see another major advantage: Uniformity of package appearance regardless of the type of frozen food container used. Freezers who wish to pack some products in paperboard cartons and others in fibre cans now can use the same type of overwrap for both types.

The development is the culmination of a full year of research and field tests, requiring unusual cooperation between machinery and package suppliers.

Packers recognized early that if requirements for flexibility and appearance could be met, the metal-end container might solve numerous production problems, especially for fruits and berries packed in syrup. For the rigid container allows a greater use of labor-saving equipment on liquid packs and, though this container usually costs more than a folding carton, freezers say the lower packing costs produce substantial net savings.

Two types of rigid fibre cans have been on the market since the war. Both required labeling before filling. In one type, the label was printed directly on the fibre container wall, which was then wax coated. In the other type, a full-color printed paper label was placed around the container as it was set up prior to filling.

The problem of flexibility concerned primarily the job packer. Heretofore, such a packer had to anticipate his complete requirements for containers and labels. This meant he had to obtain commitments from buyers of his pack in advance so that he knew under what labels to freeze. With no means of labeling or wrapping after

freezing, his containers or labels had to be lithographed or printed in correct quantities ahead of time.

Lack of flexibility was of some concern also to some major packers selling under their own labels and watching grade very closely. Here food packed for the company's top-quality label might not, after storage, grade high enough for the company's premium brand. In such case, the company would want some means of applying the label of its second line some months after the food had been packed and put into storage.

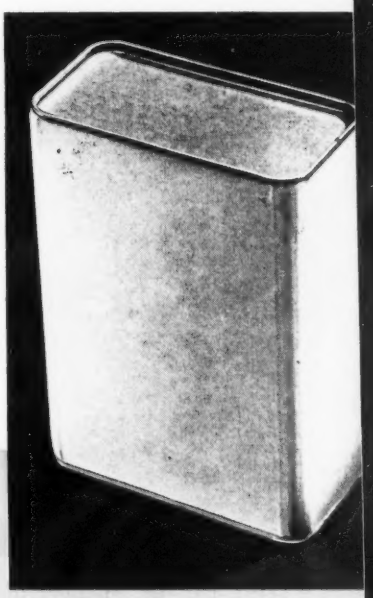
Whatever the method of labeling, the appearance of the package was of major concern. For increasing sales competition and the battle for space in the retailer's frozen foods cabinet have placed high value on a package with brilliant, full-color label and life-like reproduction of the contents.*

The challenge of this problem was first presented to packaging machinery manufacturers at the Frozen Food Exposition at San Francisco in 1947 by a leading manufacturer of the fibre-body can. One large manufacturer of wrapping machines immediately undertook experiments to determine whether its equipment for wrapping conventional types of frozen food packages could be adapted to the fibre container.

First experiments were directed toward labeling only, using a wrap-around label to cover the full fibreboard body, but leaving the metal ends exposed. This method was successful on empty cans, but not with filled and frozen cans. For experiments showed that the slight bulge in the body of the can under freezing carried the requirements beyond the limits of any available labeling material. Because of the bulge, the perimeter at the center of the can was greater than at the two ends. This left a skirt at each end which would have to be tucked to be brought up snug against the package.

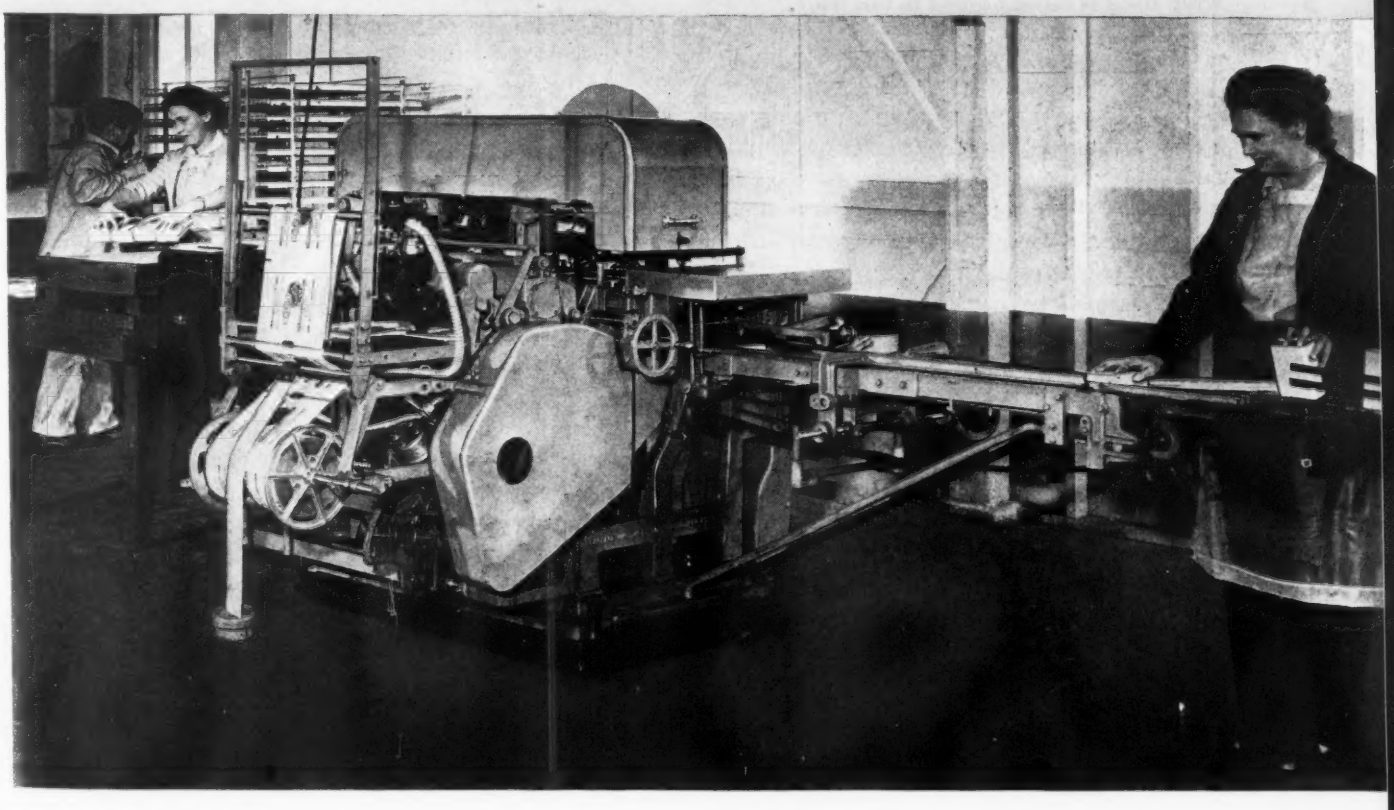
Adaptation was then made of a device which had been

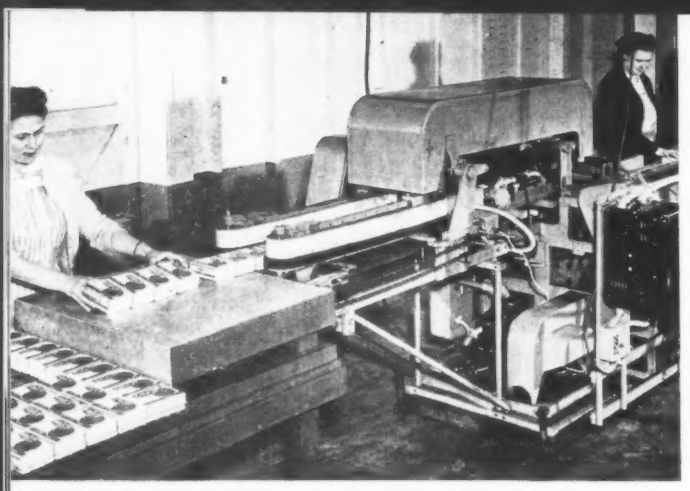
* See "Dulany Goes Pictorial," MODERN PACKAGING, Oct., 1948, p. 118.



BLANK CAN before overwrapping. Note the recessed ends, which posed a wrapping problem. Wrap can be applied before or after filling and freezing, providing an advantageous flexibility in can inventories.

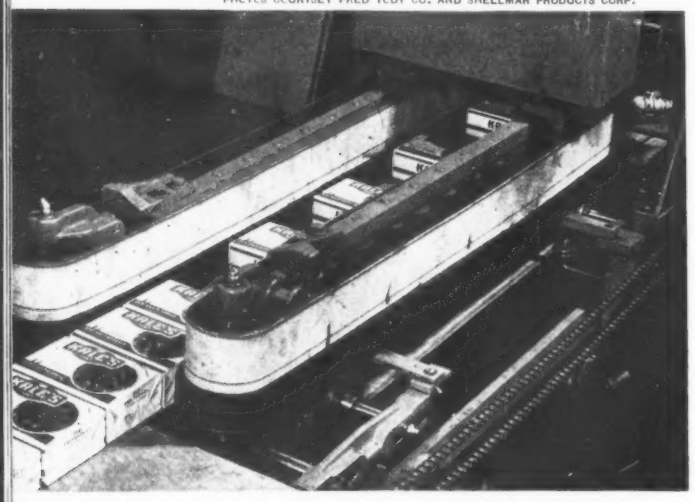
CONVERTED overwrapping machine in the Kale plant; change parts can similarly convert any standard FF wrapper of this make. The operator feeds the filled and closed cans into the machine on endless belt from the right; cellophane is fed from a roll in front of machine, positioned by an electric eye; solvent is applied to the wrap, sealing it except for a flare to be tucked over each end. The machine operates at rate of 96 cans a minute.





DISCHARGE end of machine finds finished package ready to be sent to freezer or cold storage.

PHOTOS COURTSEY FRED TODT CO. AND SHELLMAR PRODUCTS CORP.



CLOSE-UP of sponge-rubber pressure belts which firm the heat-sealed end folds of cellophane. Wrap itself is solvent-glued to can body.

used previously to make end folds in wrapping such items as extension-edge candy boxes and paper napkins. Experimental parts were made up and forwarded to the West Coast agents of the wrapping machine company, who, in cooperation with a cellophane converter and the can company, ran field tests.

These tests, completely overwrapping the fibre container and folding, tucking and heat sealing at the ends, were successful and only minor improvements were necessary. The chief change was the substitution of 450-MST cellophane for the usual 300-gauge in order to eliminate the possibility of any fracturing over the ends. In July the machinery was put into operation at the C. S. Kale plant, handling the company's pack of frozen strawberries and raspberries in 1-lb. retail containers.

About half the Kale pack was labeled before freezing and about half after freezing. Most raspberry labels were applied before freezing, as the crop was small this year and the company put its entire retail pack under its own brand. Most of the strawberries were labeled after freezing.

For labeling before freezing, the equipment is set up in the production line. Filled containers are capped and then passed through a washing machine to remove syrup from the outside. Still wet, the containers move directly into the wrapping machine. Here the roll-fed cellophane wrap feeds into the side of the machine and is positioned by an electric eye within $^1/_{32}$ of an inch and cut off. Solvent is applied to the wrap, sealing the wrap to the fibre container, but leaving a flare of cellophane to be tucked over each end.

As the can moves through the machine, the cellophane is folded in first from the two narrow edges of the can. Then a thin steel knife slides over each end. This knife blade is necessary to hold the final tuck from the two broad sides of the can flush with end seams, preventing the cellophane from being crushed against the recessed metal head. A heating element, pressing the final fold of cellophane against the knife blades, makes a seal of this fold. However, there is no seal with the earlier fold from the two narrow edges and as a result the cellophane overwrap is not sealed airtight. Moisture is therefore able to escape from the outside of the can. The waxed fibreboard can itself gives sufficient water-vapor protection to the product.

The process on the wrapping machine is the same for filled and frozen containers. It does not matter if the frozen containers are frosted up; absence of airtight seals at the ends permits evaporation of moisture.

Wrapped cans move in horizontal position from the machine in a rectangular trough formed by endless belts. Belts at the side of the trough are lined with sponge rubber to provide a soft but firm grip on the ends of the moving cartons to firm the seal.

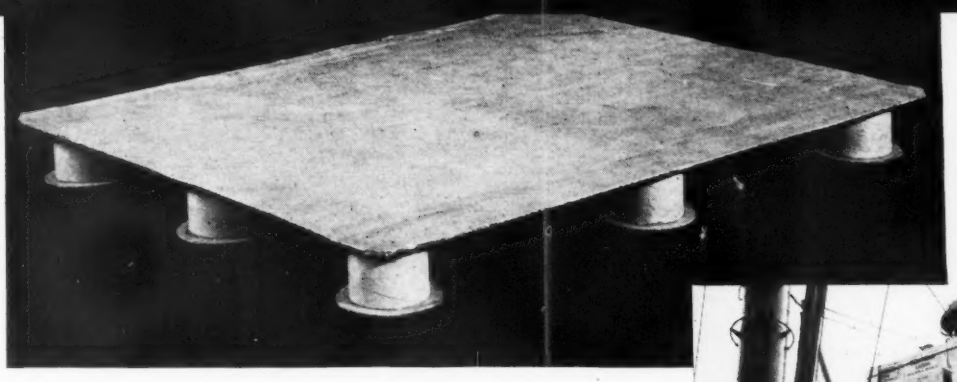
Cans emerging from the machine are stacked either in freezing trays, or, if already frozen, in shipping cartons which are then sent back to cold storage.

The machine operates at 96 cans a minute. An automatic throw-out clutch, with wide variations possible in adjustment, protects against any jam due to a defective or damaged carton.

Operating men at the Kale plant report that the machine was entirely successful in the first season's run and that it handled containers equally well whether frozen or unfrozen, and whether wet, frosted or dry.

Resistance and durability tests on the 450-gauge MST cellophane were completed in the late summer. These tests and experience with the first season's pack, both in and out of freezing rooms, showed no apparent fracturing over the metal ends or corners of the containers. Adaptation parts are available to convert the maker's standard-model wrapping machine now used for overwrapping of folding frozen food cartons. The adaptation permits wrapping the metal-end, fibre-body containers and does not prevent interchangeable use of the machine on folding cartons.

CREDITS: *Joint development work by Fred Todt Co., Los Angeles (West Coast representative of Package Machinery Co.), Shellmar Products Corp. and American Can Co. Machine (converted FF model), Package Machinery Co., East Longmeadow, Mass. Cellophane wraps, Shellmar Products Corp., Mt. Vernon, Ohio. Cans, American Can Co., New York.*



WEIGHING SIX POUNDS, the paper pallet is a flat sheet of paperboard, supported by nine spiral-wound paperboard tubes, five inches in diameter, which support the corrugated platform.

PAPER PALLETS

Cost only a third as much as wood, weigh 6% as much, do an adequate job, Bristol-Myers comparison test shows

TON LOAD being swung aboard ship on an expendable pallet, which does not have to be returned. Ship line estimates savings of 80% in man hours for truck unloading, storing and transfer to shipside, another 50% in shiploading.

More than a year ago Bristol-Myers Co., Hillside, N. J., tested the advantages of wood pallets for intercoastal shipment of packaged drug products and reported on the success of the first test shipment in MODERN PACKAGING (Jan., 1948, p. 110). Now, again in collaboration with the Isthmian Steamship Co., Bristol-Myers has similarly tested a large shipment using paper pallets instead of wood. Further substantial savings are indicated.

Primary advantages of the paper pallets are their light weight, their comparatively low cost and the fact that they can be discarded at the end of one trip, thereby avoiding the cost of shipping the empty pallets back to the plant.

Paper pallets weighing about 6 lbs. each in comparison with wooden pallets weighing approximately 100 lbs. mean a saving of 94 lbs. of shipping weight on each pallet. Based on intercoastal rates of $1.80 per cwt, this represents a saving of $1.69 shipping charge on every pallet shipped. The light weight of the pallets is also of paramount importance since pallets shipped under load by highway truck or railroad freight car take the same rate as the commodity being carried.

Cost of the paper pallets is estimated at about one third the price of the average wooden pallet. Added to these savings is the elimination of freight charges for returning the wooden pallets.

Success of these test shipments of paper pallets, which appear to be giving equal performance to other types of pallets, is attracting the attention of other maritime companies and might eventually lead to the establishment of a lower freight rate on palletized shipments on intercoastal lines.

To give the paper pallets the most severe tests possible, D. M. Daly, traffic manager of Bristol-Myers, sent pallet loads of Trushay hand lotion and Vitalis hair preparation to the West Coast in two separate shipments in coastal vessels.

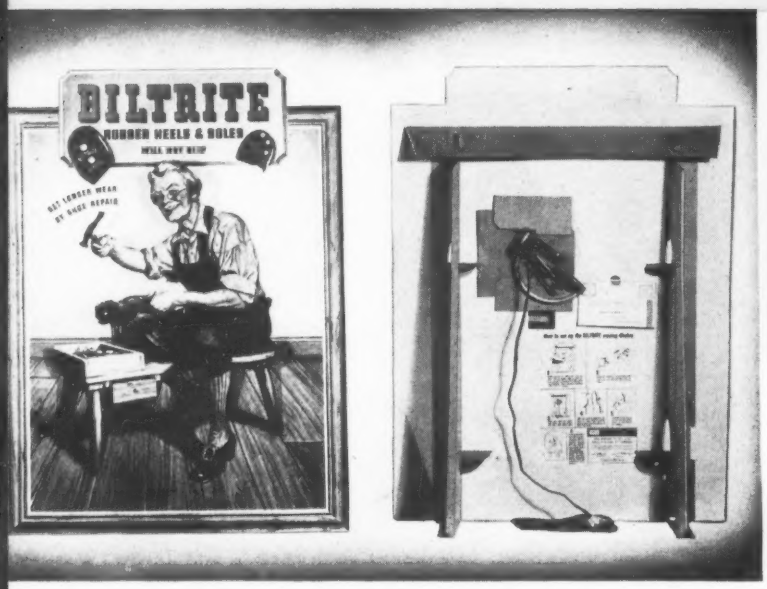
The pallet used for the Trushay cartons was 40 by 48 in. and weighed approximately six pounds. It consisted of a flat sheet of corrugated paperboard, supported by nine spiral-wound paperboard tubes, each 5 in. in diameter. The tubes are secured to the platform with a special adhesive and the whole pallet is weatherproofed by chemical treatment. Pallets used for the Vitalis shipment were of slightly different dimensions than those used for Trushay—42 by 42 in.—but otherwise similar in construction.

The initial shipment of the Trushay cartons consisted of some 24 pallet loads, each pallet containing 64 cartons and weighing approximately 2,000 lbs. The Vitalis shipment included 19 pallet loads, each pallet holding 65 cartons and weighing close to 2,000 lbs.

Trushay cartons were stacked on the pallet in an interlocking pattern, with the top tier bound with steel strapping. The Vitalis cartons were bonded together with glue and two steel straps were placed completely around the load.

Once the cartons were stacked on the pallets, they remained there from the time fork trucks picked up the loaded pallets and placed them on the trucks that delivered them to the ship's (*Continued on page 201*)

DISPLAY GALLERY



Biltrite Rubber Co.'s new motion display is stopping six times as many spectators as the same display without motion. The unit shows the "Cobbler Craftsman" at his work bench tapping rhythmically at the heel he is applying. Electrical animating mechanism is anchored to a paperboard slide that fits into two holders on the back of the display with a hook that engages the cobbler's arm. Display, Einson-Freeman Co., Long Island City, N. Y.

For its layette set, Steri-Seal of Columbus, Ohio, uses a sturdy carry-home carton that acts as its own counter merchandiser. Die-cut cover of the folding carton, which holds six complete nursing units, folds back to form winged riser. Illustrations and drawings on the sides and front of the carton and on riser piece portray use features and advantages of these new nursing units. Cartons, Gardner-Richardson Co., Middletown, Ohio.

Walt Disney characters on U. S. Time Corp. children's watches also appear on the inside lid of counter display box. Set-up, hinged-lid display box has an easel to make lid stand upright. Alternating opened and closed individual watch boxes reveal watches. Display and individual boxes, Jesse Jones Box Corp., Philadelphia, and Heminway Corp., Waterbury, Conn. Lithography, A. D. Steinbach & Sons, New Haven, Conn. Disney characters, licensed by Kay Kamen, Ltd., New York.

The Borden Co. and General Foods' Post Cereals Division are jointly promoting "Toastaroons," a baked confection whose ingredients include both companies' products. Recipes for the confection are slipped into a pocket of the easel counter display. Well planned sequence of illustrations, with tersely written copy, tells the complete story, including the price of the product.

To promote its new 12-oz. "junior jugs" of Paradise Wine, Bisceglia Bros. Wines Corp. is furnishing dealers with this double-tiered metal window and counter display. Card at the top can be changed, giving the display a continuing usefulness. The 25-cent price of these miniature jugs is prominently displayed.

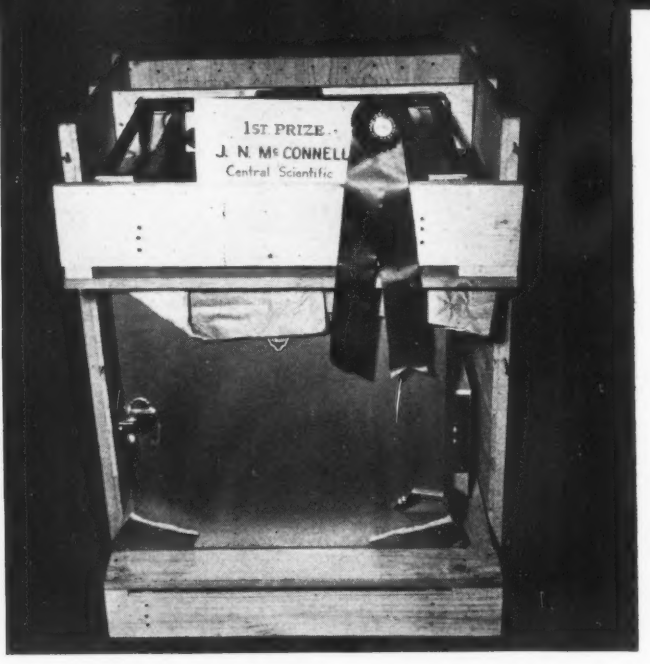
A floor merchandiser for Dif Corp.'s five-cent sale is made from a specially printed shipping case calling attention to the special offer. It holds 16 deals of three boxes of Dif household cleaner banded together to advertise the special offer. Dealers find display card in the case. Display, Gibraltar Corrugated Paper Co., Inc., North Bergen, N. J.

Convenience of a polyethylene squeeze-bottle package is dramatically presented on this display carton for Dew Spray Deodorant, made by Dew Cosmetics, Inc. Die-cut riser piece, formed from carton cover, shows how bottle works. Cartons, American Coating Mills, Inc., Elkhart, Ind.

The "target" display for Du Pont nylon tooth brushes is designed primarily to serve as a central window display unit in chain variety stores. Printed in archery target colors —red, white, blue and yellow—the display holds two dozen brushes and doubles as a merchandiser inside the store. Cards of identical shape, but smaller, display 12 youths' and 12 children's tooth brushes. Display, Einson-Freeman Co., Long Island City, N. Y.

Arrangement of this Champion Lamp display permits various sized incandescent bulbs to be shown, while two fluorescent bulbs set off the center back panel. Display is constructed of 0.070 white-backed newsboard stock, mounted with a process-colored regular offset sheet. It is die cut to hold nine bulbs. Shipped to dealers flat, it is easily set up for display. Display, River Raisin Paper Co., Monroe, Mich.

CORRUGATED or solid fibre box classification: first award to Timken Detroit Axle Co. for packaging of oil burner.



NAILED WOOD box classification: first award to Central Scientific Co. for packaging of oven.

BEST INDUSTRIAL PACKS

Awards are presented at second annual competition of engineering group; University of Illinois short course features conference and exposition

A packaging and materials handling "short course," conducted in cooperation with the University of Illinois Extension Division; the second annual protective packaging contest and an exhibit of industrial packaging and materials handling supplies and equipment featured the third annual Industrial Packaging and Materials Handling Exposition, held last month at the Hotel Sherman, Chicago.

Hailed as a pioneering step in developing a closer relationship between the packaging field and institutions of higher learning, the short course was an outstanding feature of this year's program. Approximately 800 persons attended the short course sessions, which bracketed both packaging and materials handling. Because of the large number of speakers participating in the short course and the variety of topics covered, the course itself opened one day earlier than the general meeting.

A special feature of the IPEAA meeting, repeated because of its enthusiastic reception at last year's show, was a dramatic presentation on "Loss and Damage Prevention," intended to spotlight the economic waste which takes place annually in damaged and lost freight. Arranged through the cooperation of the National Assn. of Shippers Advisory Boards, the Freight Claim Division of the Assn. of American Railroads, the Traffic Club of Chicago and the Chicago Transportation Club, this event included the presentation of a sound film, "Easy Does It," sponsored by the Assn. of American Railroads.

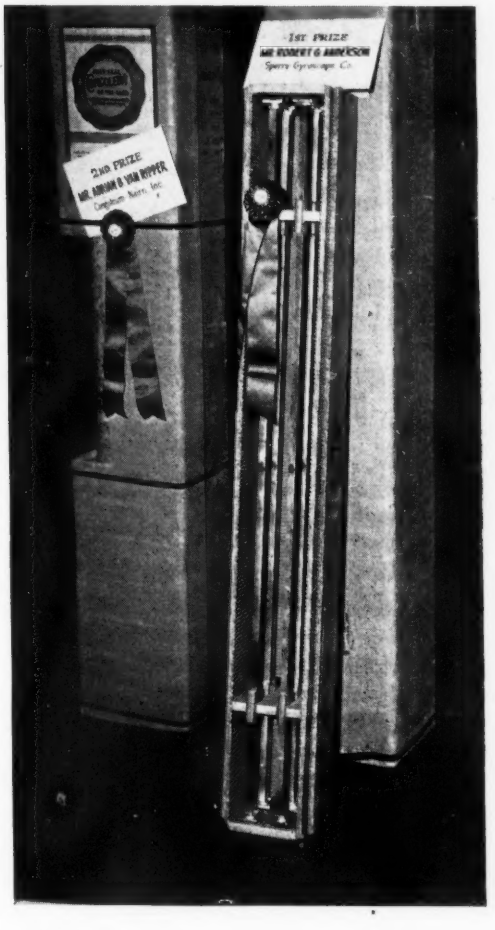
"The Perils of Precious Shipment, or Virtue Triumphant," in which the forces of "bad packing," poor marking and rough handling are overcome by the forces of "good shipping," was another component of this program, along with an address on "The Battle for Security in Transportation" by Irving M. Peters, traffic manager, Corn Products Refining Co., Chicago, and a skit entitled "A Dream of Good Shipping."

Entries in the protective packaging contest were judged in five different classifications—corrugated or solid fibre boxes, nailed wooden boxes, wirebound boxes, general and export. Awards in each classification, donated by various industrial firms, associations and publications, consisted of cash prizes of $100, $50 and $25 for first, second and third place, along with the customary blue, red and white ribbons and award plaques.

Degree of product protection, conformance to carrier requirements, ingenuity in application of materials and methods, ease of handling and economy were the five criteria on which the packages were judged by a committee headed by A. L. Green, Assn. of American Rail-

WIREBOUND box classification: first award, Heating Research Corp. for gas-heater package.

GENERAL classification: first award to Sperry Gyroscope Co.; second to Congoleum-Nairn, Inc.—both for products packaged in wood-cleated, treated fibreboard boxes.



roads. Chairmen for the five award classifications included E. F. Dival, Corn Products Refining Co.; T. A. Carlson, Forest Products Laboratories; Don L. Quinn, Don L. Quinn Co.; Albert V. Grundy, Quartermaster Food and Container Institute, and Frank W. Green, packaging consultant.

Under the rules of the IPEAA package competition, all entries were submitted by individuals not connected with the manufacture and sale of protective packaging materials, with no awards made to any company or organization. Entries were submitted through a regular employe of the organization using the packages.

Winners of this year's competition, as announced at the annual banquet, were as follows:

Group 1—*Corrugated or solid fibre boxes:* First award, Guy G. Jensen, Wisconsin Div., Timken Detroit Axle Co., Oshkosh, Wis., for packaging of an oil burner; second award, Edward J. Runser, Jr., General Electric Co., Erie, Pa., for an electric refrigerator package; third award, Irwin M. Rehm, RCA Victor Div., Radio Corp. of America, Lancaster, Pa., for a radio tube package. Honorable mention: Mrs. C. Johnson, Weber Costello Co., Chicago Heights, Ill., package for geographical globe stand; J. N. McConnell, Central Scientific Co., Chicago, for Theostat package; Wilburn Couch, GMC Truck & Coach Div., General Motors Corp., Pontiac, Mich., package for molded destination sign glass; Roland P. Larson, Speigel, Inc., Chicago, fluorescent circle light package; Robert A. Miller, Hardy Salt Co., Chicago, salt block package.

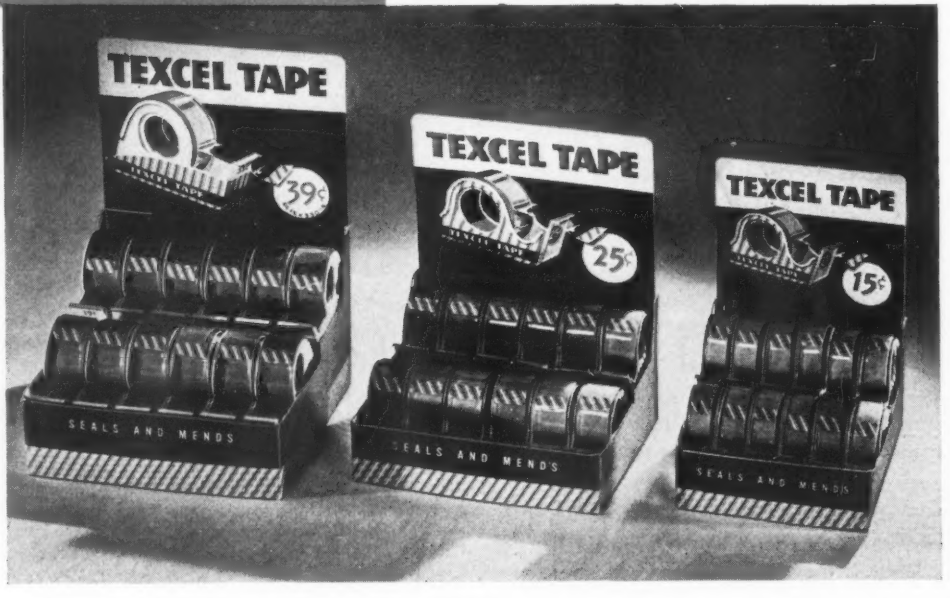
Group 2—*Nailed wooden boxes:* First award, J. N. McConnell, Central Scientific Co., Chicago, pack for Cenco Consistent Temperature Oven; second award, H. A. Hunt, Burroughs Adding Machine Co., Detroit, Mich., pack for Bank Book Adding Machine; third, Edward Regnier, Davidson (*Continued on page 196*)

EXPORT classification: first award to the Burroughs Adding Machine Co. for the packaging of an adding machine.

TAPE CAMPAIGNING

70 new candy-striped packages meet advertising deadline to boost Texcel at the point of sale

NEW DISPENSER saves 27% on blackplate, is said not to spread and let the roll slip out or squeeze together so that the roll won't turn.



DISPLAY CARTONS do three essential selling jobs simply. Accurate color illustration tells what product is; logotype tells the trade name; copy tells usage in three words—seals and mends. Candy stripes in red and white, with marine blue background, provide the family theme.

To introduce its handy new dispenser for Texcel Tape, the Industrial Tape Corp. has launched the most intensive national advertising campaign it has ever undertaken.

Few people will realize, when they see these new candy-striped dispensers on store counters, the intensive package redesign program that had to be completed in a little more than eight months to have properly packaged selling units at the point of sale in time to get the full impact of this advertising program.

It was just last January when J. S. Nicholls, Jr., president of Industrial Tape, conceived the idea for an improved U-shaped dispenser, made of one piece of metal, secured by a narrow metal strip at the front end, representing a 27% saving in blackplate. The new dispenser, it is said, will not squeeze together to lock the roll of tape or spread at the sides to let the roll slip out. It is also said to prevent tugging and binding, to allow for an easier flow of the tape and thus reduce the possibility of tearing. It also eliminates many of the sharp edges found on previous types of dispensers. This new dispenser was engineered by A. J. Stanley, development engineer for Industrial Tape Corp.

Between February and August, some 70 different packaged units were designed, adopted and produced—not only for the new Texcel dispenser rolls, but for all other types of home and office-use Texcel tapes. The result is strong identity for the Texcel family and new convenience for dealers, jobbers and distributors.

Industrial Tape Corp., whose business was originally the production of surgical adhesive tapes and later many types of pressure-sensitive tapes for industrial use, began the manufacture of cellophane tapes for office and home use shortly before the war.

Packaging of these consumer lines, however, had never been planned with strong family resemblance nor given the kind of eye appeal demanded for products of this kind.

With the introduction of the new dispenser and the plans for national promotion, the company realized that the packages would require a symbolic family design and color treatment that would be quickly identifiable with all promotional material and that would have recognizability excelling competition. The program had to include packages and point-of-sale units for everything from the 15-cent dispenser to big shipping cases. The problem was further complicated by the fact that Texcel Tape is primarily a counter-selling item, but its packaging must be planned for adaptability to all types of outlets—drug, stationery, art supply, hardware and department stores—as well as for the bins of the variety chains. J. L. Spencer, assistant to the president, was given the assignment of bringing the project to a successful conclusion.

The study of the problem was first approached from the standpoint of improving convenience features of all types of packages used—easels, cartons of all types, display containers, cards for bin merchandise and corrugated shipping containers.

For surface design—family symbol, colors, logotype, etc.,—the company felt they needed expert independent assistance and, after a complete investigation of the field, commissioned the service of a top-notch designer. Together, company management, the engineering department and the independent designer worked out the details of a comprehensive over-all program that was in production and ready for distribution by Industrial Tape in September.

First essential was the selection of an identifying symbol. The original idea was a red and white barber-pole stripe suggested by Mr. Spencer as an attention getter. Since the product had to appeal to women and children, this idea was refined by the designer to a peppermint candy stripe in red and white, based on the premise that red outsells other colors two to one. An ultramarine blue was selected as the contrasting color,

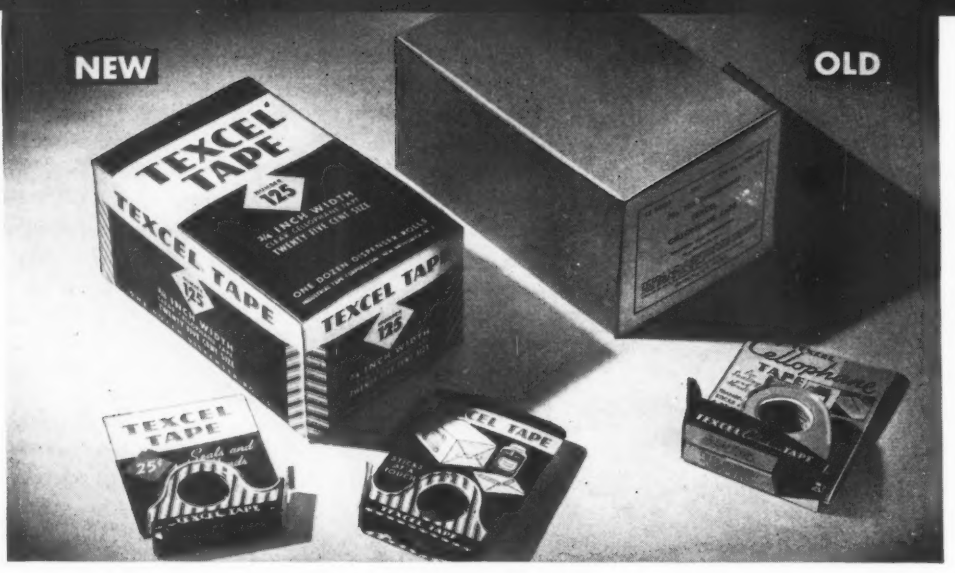
NEW SHIPPERS are as colorfully printed for display as point-of-sale units to win greater acceptance among jobbers and distributors. Inner packing assures safe delivery.

OLD SHIPPERS were triangular in shape and difficult to stack and handle. They also had no display value. The former counter unit had no eye-catching design theme.

NEW

EASEL DISPLAYS join the new family. Compare effectiveness of old and new at the point of sale. Old design lacked character and distinction; old shipper said nothing. New display and new shipper both carry the new family design.

OLD



BIN-TYPE packages are for the variety chains. New cards join the family. New, colorful shipping carton gets attention of jobber, dealer and distributor.

because of its strong eye appeal and serviceability.

On display, the packages were designed to do three jobs—to tell "what the product is," "what it does" and "how much it costs." Since simplicity is the keynote, a very accurate reproduction of the dispenser, printed in full color on every point-of-sale piece tells the product story quickly and visually. The only copy is the specially lettered logotype of "Texcel Tape," the price designation and three short words describing uses—"seals and mends."

A great deal of attention was given to the outer packaging of the display units as well as to outer packaging for other items in the line. In the past, many display units were shipped in brown kraft cartons, printed to tell what they contained, but with no eye appeal and not much to differentiate them from anything else that might be contained in a kraft carton. Research indicated a definite need for shipping units that would make recognition easier for distributors and jobbers. Appearance of the outer package, it was felt, was just as important an asset in trade promotion as in consumer promotion. Every outer package has thus been given just as colorful display treatment and family identification as the point-of-sale packages themselves

Brief descriptions of the various package groups give the best idea of the accomplishment.

Counter display cartons

A large proportion of sales is made from three counter display cartons, each holding 12 individual dispenser packages of tape. Each carton holds dispenser packages selling at different prices—15 cents, 25 cents and 39 cents. Previously the construction of these cartons was triangular in shape, with a brown kraft shipper, also triangular, to fit over the display carton. The new cartons have been made rectangular, with an outside rectangular shipper. These units are much easier to stack and handle and are of sturdier construction. Carefully engineered interior packing helps to keep merchandise from shifting during shipment, so they are ready to set up when the dealer gets them.

The candy-striped design motif, the ultramarine blue background, the dominating illustration of the dispenser on the riser piece and the candy-striped end tabs on the tape itself create an impelling counter merchandiser. The use of white clay-coated paperboard, color printed

STRIKING CONTRAST is shown between nondescript old packages for desk dispensers and new ones carrying family stripes and illustrations of products, making it easy for jobber, dealer and consumer to tell what's inside.

COVER DESIGN is retained on the metal containers because of its consumer acceptance, but these packages have joined the Texcel family by having the diagonal candy stripes lithographed on the sides. Covers are black and white.

with the family design, for the outside shipper gives the same pleasing appearance to the stockroom package, easy to identify as Texcel Tape at a glance and with the added advantage of good-sized, legible lettering designating tape width, price and catalog number.

Interesting also in connection with the planning of the counter display units is the fact that the company was able to use the same metal blank used in forming the dispenser for both the $^1/_2$-in. tape selling at 25 cents and the $^3/_4$-in. tape selling for 25 cents by merely using a wider piece of metal at the front end to secure the dispenser for the wider tape. Since price and width of tape are lithographed on this piece, it requires only a small switch in production to use the same blank for both widths of tape.

All of the dispensers are formed and loaded automatically on specially designed machinery. One part of the machine bends the dispenser blanks into shape. At another station the tape is fed from a magazine in rolls which are dropped into position in the formed blank. The roll of tape is secured in the dispenser when the front metal strip is fastened to hold the device together.

SHIPPING CASES show how the redesign program was carried right through to every packaged unit from 15-cent dispenser roll to largest box.

Easel and wall cards

For dealers who prefer the dispensers on pilferproof easel or wall cards, the company has developed new carded units for the various-sized dispenser packages. The basic design theme is the same as for the display cartons, but the dispensers have been placed diagonally on the card which, it is believed, gives "movement" to the display. The decided improvement achieved by color printing the shipper carton with the trademarked design for these units is shown in the accompanying photos.

CARD WITH POCKET and special flap which locks in position when roll of tape is inserted into the pocket solves troublesome "falling apart" problem of old five-and-ten carded package.

Variety store packages

In the variety stores, Texcel Tape is sold from open bins, and for these outlets each dispenser is carded for easier handling and identification. Previously variety store packages were carded, but lacked proper eye appeal and recognizable color scheme. The new cards carry the new family package theme and are printed so

ADAPTABILITY of design theme is illustrated by its modification for the company's line of Giftape. The blue background gives way to Christmas green to outline the reverse white Christmas tree, but the red and white stripes and familiar logotype are still to be seen here.

that one side has the sales message, while the other illustrates usage. Both sides are colorful and well identified, so that they are attractive no matter which side shows in the bins. The use of the color and trademark design for the shipper in which the cards are packed is also a great improvement over the former plain chipboard shipper.

Another striking innovation is the new carton for the Texcel desk dispenser. Previously this was a plain corrugated box printed with trade name and company address. The new box, color printed, carries the new logotype, the characteristic candy stripes and a full illustration of contents, so that jobber, dealer and consumer know immediately what the package contains. A chipboard carton formerly used for the company's plastic dispenser has been similarly redesigned.

The only previous package design that was not eliminated is the red and black cover for the metal-container packs of long-length Texcel Tape. This had been so well received that it was decided to retain it, but the metal containers have been brought into the Texcel family by lithographing the diagonal candy stripes on the sides of the cans.

Packages for the company's line of cellophane Giftape have also been brought into the candy-stripe family, showing how cleverly a simple design motif can be adapted to various purposes. Here the marine blue gives way to a Christmas green to outline a Christmas tree in reverse white. The ever-present red and white candy stripes and the Texcel logotype immediately associate the gift-tape display cartons and shippers with the Texcel family. The gift tapes are also carded for variety-store bins. Carding the single rolls, however, previously had been an annoying problem. Formerly the roll of tape had been attached to a die-cut card by means of a friction plug of metal which was pushed through the die-cut hole of the card into the recessed metal spool on which the tape was wound. The package looked attractive, but the company received complaints from stores that the plugs came loose and many of the rolls became detached from the cards, making them hard to handle. A suggestion by a company employee led to the development of a new type of carding which prevents the spool of tape from coming loose. The new card is die cut, scored and folded in such a manner that it forms a pocket of paperboard to hold the roll of tape. The roll can't slip loose because it is held in position by a flap which locks it into position when the roll is inserted into the pocket.

CREDITS: *Package design, Jim Nash Studio, New York. Improved dispensers, Federal Tin Co., Baltimore, Md., Continental Can Co., New York, and Columbia Specialties Co., Baltimore, Md. Counter display cartons, Robertson Paper Box Co., Montville, Conn. Easel display cards, Forbes Lithograph Mfg. Co., Boston. Variety-store bin cards, I. N. Blue Printing Co., New Brunswick, N. J. Desk dispenser cartons, Trenton Folding Box Co., Trenton, N. J. Giftape display boxes, Trenton Folding Box Co. and Robertson Folding Box Co. Giftape pocket cards, Lord Baltimore Press, Baltimore, Md. Metal containers, Columbia Specialties Co., Continental Can Co. and Sterling Seal Co., Erie, Pa. Corrugated shipping cartons, Schiffenhaus Bros., Inc., Newark, N. J.*

PACIFIC MILLS TOWEL ENSEMBLES

An unusual feature of this two-piece folding box for Pacific Mills gift assortment of Supersorb towels is a special patented construction which displays the merchandise above the level of the box base. Allowance for this feature is provided by die cutting and scoring the double wall of the box cover to form inside shoulders that hold the cover above the merchandise when the box is closed.

Pacific Mills' entry into the towel field is sparked by the development of creative packaging. The six-piece luxury ensemble is representative of the trend toward feminine and dramatic colors in home fashion merchandising. The stylized design of lacy ferns is interpreted in black, pink and white. The balanced composition achieves interest by careful use of free-brush stroke outlines. Solid pink interior of the package emphasizes the delicate color assortments of the towels. This packaging meant close cooperation between Pacific Mills and the supplier to combine hard-headed sales research with outstanding design.

CREDIT: *Package, Container Corp. of America, Chicago.*

PACKAGING INSTITUTE REPORT

Tenth Annual Forum, Hotel Commodore, New York—October 14-15, 1948

Speaking before the opening session of the tenth Annual Forum of the Packaging Institute in the Hotel Commodore, New York, last month, President Mason T. Rogers pointed out that the purpose of the Institute has been simply stated as: "To help the members with their production problems." When the two-day Forum was concluded, the 506 registrants were in general agreement that the program had exemplified the purpose of the organization.

Built around topics suggested by the members themselves, the program centered on the theme of "Wasted Packaging Dollars and How to Avoid Them." In the three general sessions and three seminars that comprised the Forum proper, this theme was touched upon time and again, together with the question of company organization for proper packaging control. Attention and participation of the audiences indicated that the information received was highly valued.

President Rogers' term ended with this meeting and Charles L. Barr of the F. B. Redington Co. was elected president to succeed him. Named vice presidents to serve with President Barr were Henry W. Stevens of the Benj. C. Betner Co. and Charles O. Kendall of E. R. Squibb & Sons. Dr. L. V. Burton, who was commended upon the completion of his first year as executive director, remains in that office.

Speaking at the luncheon on Oct. 14, Clinton K. Royce, executive vice chairman of the Navy Packaging Board, described the new inter-service set-up which will control packaging matters in the current military preparedness program and some of the problems posed by the new arctic specifications. He promised every effort toward uniformity of specifications for the three Armed Forces on packages and package materials.

The Friday luncheon speaker was W. B. Lincoln, Jr., technical manager of the Inland Container Corp. and chairman of the Technical Committee of the Shipping Container Institute, who reported on the shipping test program conducted by that organization.* The shipper can help reduce damage claims, Mr. Lincoln said, if the importance of the packing function is recognized and given its proper place as a management responsibility.

Most of the registrants attended the annual banquet on the evening of Oct. 14, which was given over completely to a program of entertainment arranged by Robert D. Handley of the Sylvania Division, American Viscose Corp.

Preceding the opening of the Forum itself there was a day of committee meetings. Reports of standing committees were presented at the annual business meeting at noon Thursday. Acting for Chairman Herbert T. Holbrook, Gerry Manypenny of *Packaging Parade* presented the first completed edition of the Institute's new "Glossary" of trade terms, compiled by the Standards & Practices Committee. Chairman Robert de S. Couch of General Foods reported for the Technical Committee, telling of the organization of a number of sub-committees for special projects. Chairman William F. Cullom of Celanese Corp. reported for the Advisory Service Committee on inquiries received by mail and telephone, and announced plans to publish case histories.

The following new members of the Board of Directors, recommended by the Nominating Committee through Chairman G. W. Reese of the American Can Co. were elected: Mr. Couch; H. Lyle Greene, J. L. Ferguson Co.; Lee Hickox, Container Laboratories, Inc.; Wickliffe Jones, R. A. Jones & Co.; F. S. Leinbach, Riegel Paper Corp., and Harry A. Miller, Burt Machine Co. Re-elected to the Board were Mr. Kendall, Mr. Stevens and George W. Von Hofe of the New Jersey Machine Corp.

The program for the tenth Annual Forum was arranged by Dr. Burton with the help of a committee consisting of A. F. Stevenson, The Borden Co., chairman; Mr. Couch; R. W. Lahey, American Cyanamid Corp.; Kenneth R. Marvin, Eastman Kodak Co.; H. E. Nack, Sharp & Dohme, Inc., and R. C. Reed, The Texas Co. Frank Greenwall of National Adhesives was chairman of the Greeters Committee.

Following is a summary of the Forum proceedings, covering both general and concurrent sessions:

THURSDAY MORNING—*General Session*

Chairman, MASON T. ROGERS, *President, Packaging Institute.*

Wasted Packaging Dollars—and How to Avoid This Loss—L. V. BURTON, *Executive Director, Packaging Institute.* The biggest waste of packaging dollars, Dr. Burton declared, arises from a lack of proper management—not from any inability of packaging specialists, technicians and engineers to solve a problem. Such waste occurs in the "best managed" corporations—unless they have a set-up in which there is *compulsory centralized coordination and control* of the packaging function. Dr. Burton emphasized the word *compulsory*. Too often, he said, what seems to be a system of control does not control.

He cited the case of a company which has one of the 10 best packaging men in the country, but has failed to put him in a position of authority. He is there to be consulted if anybody happens to want advice. But it is not compulsory to clear any projected action with him. One day the formula for a perfume product was changed and

* See "Shipping Container Study," MODERN PACKAGING, April, 1948, p. 168.

one ingredient was substituted for another. After a few weeks complaints began to pour in that the perfume was full of flakes of a metallic substance and consumers refused to buy it. The new ingredient had attacked the aluminum-foil cap liner. The diagnosis of the trouble was elementary to a chemist and the heavy loss would never have occurred had there been a set-up in the company whereby any change in the product would have been cleared with the centralized packaging authority.

In another company the sales department decided on a new container for a special drive, ordered the purchasing department to buy several carloads—also ordered the labels—but the sales department failed to consult the manufacturing department and unfortunately the containers could not be labeled because there was no place on the container smooth enough to permit adhesion.

Dr. Burton also cited the case of a company in which the purchasing department was allowed to change specifications for a packing material to save 4 cents a case. After many thousands of packages had been shipped, it was discovered that this substitute packing material had a strange affinity for the product, resulting in a chemical change that rendered the product unsalable.

In every manufacturing business, Dr. Burton said, each function and each department has a head. "Why in Heaven's name," he asked, "do companies keep on without adequate control and coordination of packaging?"

What Is a Packaging Engineer and Where Does He Belong in an Organization?—JOHN A. WARREN, *Packaging Consultant, American Home Products Corp.* Economics in packaging, Mr. Warren said, may only be obtained when the packaging materials and packaging operation are considered as one entity. The divorcing of the two will only divide responsibility and lead to economic waste. I do not hesitate to predict, Mr. Warren said, that the average American business enterprise can save a sum equal to 5% of its net yearly earnings if it will use intelligently the talents of the package engineers in its employment.

An automobile manufacturer recently undertook a study of methods and materials used in the packaging of automobile parts; the study has resulted in an estimated saving of approximately $1,000,000 a year. The packaging technicians of a nationally known chemical company have saved the corporation over $750,000 since the first of the current year in revamping the packaging specifications and materials in the packaging operation on only four products. Another company in the grocery specialty field with an annual business of $1,800,000 will this year, due to efficiency of their packaging line after studies by their engineer, show a saving equal to 29% of last year's net earnings.

Mr. Warren said he does not feel that the term package engineer should be limited to those who have earned an engineering degree. It is only by examining the full scope of work, he pointed out, that the requirements or qualifications of a package engineer can be determined and he listed some of these qualifications as: knowledge of packaging materials and their characteristics, trade practices, materials manufacturing methods, specification writing, the products and their distribution channels and conditions, packaging machinery and its development. The place of any package engineer on the organization chart, Mr. Warren said, will determine his value to the organization. He should not be isolated, but in continuous contact with all departments concerned with packaging. We believe that in a single plant operation the package engineer should be responsible to the operating head of the plant. In an organization set-up of decentralized plants, the engineer or package engineering department should be responsible to the executive operating head. It is important that your package engineers be encouraged to visit other plants to see how they handle their packaging problems and what materials they use. He should be your liaison officer of good will with the packaging industry to keep abreast of new developments.

Industry today has not used to the greatest advantage the package engineer or packaging committees. They should be active participants in all discussions related to packaging and should be cloaked with authority.

The Packaging Committee and Its Job—R. C. REED, *Secretary, Packaging Committee, and* F. G. MARSHALL, *Packaging Engineer, The Texas Co. Delivered by Mr. Marshall.* A packaging committee, Mr. Marshall said, performs the executive function by application of the combined experience of specialists in each field. The membership should represent all divisions of work within the organization and its authority should transcend all boundaries of specialization. This will include manufacturing, sales, legal, purchasing and other interested divisions.

The Packaging Committee of The Texas Co. is actually a sub-committee of a large general committee which has a broad scope in the establishment of manufacturing and marketing policies and which reports directly to the president. The number of members appointed to the Packaging Committee is kept as low as practicable without sacrificing complete representation. The Packaging Committee now has 10 members. The individual members are those who can represent their respective departments authoritatively and who can make the facilities of their department, including its staff and various divisions, available as needed. The members represent domestic and foreign sales, manufacturing, supplies and distribution, packaging, advertising, legal and purchasing.

The committee includes two representatives of the domestic sales department who are familiar with general sales policies, probable consumer reaction and utility of the package design. Removing the handle from a pail will reduce the cost of the package, but it may also result in a serious decrease in demand. Consumers may be equipped with special types of grease pumps and similar dispensing equipment for other products; a change in a package may be completely impractical due to the type of dispensing equipment used. Sales representatives know best whether products are being transported safely without extraordinary damage, whether packages are the right size and weight for most efficient handling by distributors and consumers, and how they stand up under storage conditions.

The secretary of the Packaging Committee, who is the only member devoting his full time to packaging activities, is a representative of the manufacturing department and the head of the managerial staff which supervises packaging matters. He issues package and packaging material specifications. He must coordinate, interpret and enforce the decisions of the Packaging Committee. He must analyze the relative costs and relative advantages of package types. He must investigate new developments in the field of packaging and study competitive trends. He must be sure that packages will withstand the hazards of transportation, storage and handling. He must see that

packages comply with freight classifications, the regulations of shipping conferences and with government or customer specifications when necessary.

The purpose of The Texas Co. Packaging Committee has been defined as follows:

1. To consider new packages as to style and design for present or newly authorized products.
2. To direct such research as necessary to determine the advantages or disadvantages of each style or design from the standpoint of the company and of the consumer.
3. To consider changes in existing packages arising from performance in the field and production factors.

The succeeding years have shown little reason to change this original definition. Free discussion of packaging problems by a group of specialists, each experienced in one or more phases of the operations of a company, is a means for promoting the best interests of the whole organization.

THURSDAY AFTERNOON—*General Session*

Chairman, JOEL Y. LUND, *Vice President in Charge of Production, Lambert Pharmacal Co. and past President of Packaging Institute.*

Shock Breakage in Glass Containers—H. A. WADMAN, *Consultant, West Hartford, Conn. Formerly with the Hartford-Empire Co.* Glass, as a material for containers, has many pre-eminent advantages. The behavior of glass under stress is sometimes very puzzling.

Several years ago, two physicists of my department at the Hartford-Empire Co. devised a method of forcing glass to break at a definite point and treating the point at which the break would occur in different ways. The breaking strength was then computed. Tests of inside and outside strength were made. To the scientist, the detailed figures are extremely interesting for a number of reasons, but for the purposes of the Packaging Institute, it seems to me, three aspects are of outstanding importance: First, the extreme variations that may be encountered in the strength of glass, namely, from 170,000 to 6,300 lbs. per sq. in. in the set of experiments made. Second, the figures are not sporadic. The reduction in strength is a definite function of the treatment given the glass. Third, the excess of inside strength over outside and its greater vulnerability.

It should be noted that while some of the treatments, such as filling with water or rubbing with steel wool, affected practically all the surface, the treatments that reduced the strength most, such as tumbling bottles on the lehr belt or scratching them, affected only small areas. Our test method was devised to break the glass at this area while a shock during shipment may or may not stress such a local area to a high degree. Therefore, bottles subject to the usual surface damage caused by conveyors and filling machinery may be expected to show very wide variations in breakage when they are later subject to heterogeneous shocks. It may not be unusual for some bottles to receive local damage comparable to the diamond scratch, but the question of failure of that bottle is still a matter of whether or not it encounters the particular kind of loads, at any time during its life, that stress the particular weak spots. If it is to be shipped and used once, its chances of survival are very good, as we know by experience.

Now, as packaging engineers, what can we do about this breakage due to the static effect on the bottles, of deceleration? First we can recognize its occurrence rather definitely. The outer carton walls or the separating strips may be expected to show that they have been compressed to the point where the pressure is no longer that of the crushing wall, but that due to intimate contact with the glass. If there are local marks of small area on the package, the specific cause should be sought in the shipping and handling details. If a significant number of cartons show crush marks caused by flat surfaces, and dropping the loaded cartons a reasonable height on flat concrete indicates that this amount of crushing is to be expected, the crushing strength or the thickness of the carton wall may be increased. This sounds easy to the engineer, but those of you concerned with costs will realize how narrow the margin that may be allotted to carton cost is in the case of inexpensive contents. One may take steps in protecting wines or liquors that would be quite out of the question in the case of vinegar. Second, we can point out that the carton wall should crush at a load less than that which would break the glass container by static pressure, preferably to the point at which the carton wall is crushed.

The second class of phenomena, namely, those due to acceleration of the package and its contents, followed by deceleration, were investigated by T. C. Baker in the Hartford-Empire laboratory under my direction. The modifying details are very complex. (Mr. Wadman illustrated the highly technical subject by means of a series of slides.)

Need for Greater Package Standardization to Permit Production of Lower Cost Machines—MOREHEAD PATTERSON, *Chairman, American Machine & Foundry Co.* The correct title for this address should really be "Lowering Costs by Machines" rather than by "Lower Cost Machines." The standardization movement goes back at least 24 years. Now, the buyers' market makes cost reduction imperative. Explorations of the subject usually emphasize product costs rather than costs of distribution, sales or packaging

Pressure from the Sales Department for fancy containers mitigates against cost reduction. Frequently, it is impossible to get standardized machines to handle frilly packages. Therefore, before a producer commits himself to a new fancy package, he should investigate the field to see if there are standard machines that he could use. The machinery manufacturer can't afford to assume the costs of development and engineering on specialized models and the product producer can only get his costs down if he has volume. The work of the package designer is much to be admired, but a designer should study machine operations to make sure that his packages are practical.

According to our experience as machinery manufacturers, we don't believe product producers can sell any more goods solely because of a package change. Cigarettes afford an excellent example, as also does the use of a captive cap on a tooth-paste tube. One company used that device for a long time and was afraid to let go until a change in management came which brought about the abandonment of the captive cap without any detriment to the sale, even though the advertising had featured it.

In spite of my convictions about the advantages of standardization which I have been talking about, here is a confession. I am against package standardization for two reasons: one, because I would like to keep our Engineering and Development Departments busy; two, package design contributes to more enjoyable living.

When Is It Profitable to Develop Special Machines—Even at High Cost?—ROBERT G. DEXTER, *Barkley and Dexter,*

Consulting Engineers, Boston, Mass. Special machinery or, as we call it, "tailor-made machinery," is machinery designed for one specific sequence of operations on a specific product. Tailor-made machinery is only of value where one or more over-all conditions exist in a factory.

First: the plant must be engaged in mass production of one or more items on a fairly large scale involving an appreciable amount of hand labor.

Second: an opportunity must exist for improving the product by use of special machinery or of serving a more extensive market through cost reduction.

Third: such machinery is indicated where hand operations are too difficult to produce efficient results.

Last: floor space is occasionally a factor where expansion is difficult or impossible.

The manufacturer should first explore exhaustively the possibility of using standard machinery available on the market. If no machinery is to be had exactly suited to the task, he should investigate adapting such machinery.

(Special machines made for three companies were shown by means of colored movies.)

The most important thing in considering tailor-made machinery is the extreme care with which analysis of requirements must be made.

An adequate allowance or initial appropriation should be made to permit careful analysis and preliminary study of method, as the initial plan of the machine is all-important. Adequate time must be allowed for preliminary study.

FRIDAY MORNING—*General Session*

Chairman, ROGER V. WILSON, *Customer Research Division, Continental Can Co.*

Principles of Statistical Control—C. W. KENNEDY, *Quality Control Engineer, Federal Products Co., Providence, R. I.* Quality control men admit that there is variation in the output of a production line, but the fact that this variation falls into a pattern is important, according to Mr. Kennedy. When the pattern is distorted is the time when correction in equipment or materials must be made. It is through the gathering of production samples, measuring them and applying the principles of statistical measurement to them, that the variation pattern may be analyzed. "An average isn't worth very much," he said. The extremes which the sampling turns up are the factors affecting quality control. These extremes make the average and since quality control men are most concerned with the variations in products, it is through the extremes that the standard deviation from the average can be determined. Standard deviation is determined by the mathematical formula:

$$\sigma = \sqrt{\frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 \ldots (X_n - \bar{X})^2}{N}}$$

or

$$\sigma = \sqrt{\frac{(\text{1st Obs.} - \text{Av. of all Obs.})^2 + (\text{2nd Obs.} - \text{Av. of all Obs.})^2 + \text{etc.}}{\text{Total Number of Observations}}}$$

When this standard deviation is known, then predictions can be made and control can be effected. By using statistical methods to analyze samples of production work, other types of costly, time-consuming tests can be eliminated, according to Mr. Kennedy. It has been proved that in the distribution curve which makes up the average, 68% of all the work will fall within the limits of $\pm 1\sigma$, 95.5% within the limits of $\pm 2\sigma$ and 99.75% within the limits of 3σ. Thus, tables can be worked out giving the predetermined requirements the work must meet and future samples can be checked by referring to these tables. He suggested that in the first sampling when average and standard deviations are to be found, not less than 20 items nor more than 200 items be picked at random.

Causes of Variations of Net Weight or Fill—MARTIN BRUMBAUGH, *Director of Statistical Analysis, Bristol Laboratories, Inc.* There are three types of filling: preweighed, weighed in the container and filled by volume with weight-minimum specification. Under the second and third types of filling, the weight of the container is important, involving five separate sets of conditions, according to Mr. Brumbaugh. Precision of weighing—taking into account variations due to the weighing instrument, the operator, humidity, density of material, container weight and other factors—is the first factor. The overfill requirement is directly related to the precision of weighing. Accuracy of weighing—involving any biased errors resulting from mis-setting the instrument or misreading of the dial by the operator—is the second factor. The third is the "gross-tare-net" relation. Whether the container variation is negligible or not, distribution of net weights can be obtained by filling pre-weighed containers at regular intervals. The net weights of a fairly large number of units will give a distribution pattern depicting the characteristics of the filling equipment. This distribution can be analyzed for precision, accuracy and the overfill requirement by statistical methods to arrive at standards of deviation. The fourth condition arises when pre-weighed containers are not used and container variation is not negligible—the problem of joint variability is then encountered. Mr. Brumbaugh explained the statistical formulas for calculating standard deviations of the gross weight, filling process and containers, and the formula establishing the relationship of these three deviations. When filling is done by volume, the last set of conditions is introduced—the difference in specific gravity of batches which leads to triple sources of variability. If triple variations can be controlled, control of gross weight assures net fill for the label claim.

Statistical techniques for measuring and analyzing these conditions and the relationship of the variations in filling operations enable the quality control department to set up control charts and procedures for maintaining net weights during production. The charts provide quick information for operators concerning any deviation in the equipment. They distinguish between safe and unsafe (controlled and out-of-control) operations. They permit operation of equipment to minimize the cost of overfills without danger of marketing underweight units of product. Careful reading of the average and range control charts point fairly specifically to the cause of trouble at the time of occurrence. But, it must be remembered, Mr. Brumbaugh warned, that back of the control chart lies the basic frequency distribution. Knowledge of the measures of this distribution is a requisite. Joint use of frequency distribution and control chart technique is the safest insurance for economical operation, he concluded.

Integrating Packaging with Materials Handling—ALBERT B. DRAKE, *President, Lehigh Warehouse & Transporation Co.* Until you get right up to the point of final sale, the basic considerations in package design are three, according

to Mr. Drake. There is the protection of the product, economy and the way a package lends itself to storage and handling. Most shipping container designers today recognize that the container must be handled manually; thus the finished product shipping container of today usually has a weight limitation of approximately 75 lbs. The time is not too far away when mechanical handling may be developed to the point where this manual weight limitation can be modified to a considerable degree. The packaging engineer should consider primarily the materials handling movements that the package is going to go through before it reaches its ultimate destination. Size and shape of the shipping container become of prime importance in relation to the many movements to which the package is subject. The most economical way to distribute is to ship the largest practical package unit to the point closest to the consumer. The cigarette carton and individual package, for example, are of such design that they lend themselves to a shipping container which can be further extended into a larger shipping unit—the unit load or the palletized load.

This method of shipping is bound to come because it embodies so many economies that it cannot be overlooked much longer, Mr. Drake said. The manufacturer who is not considering the eventuality of the largest possible shipping unit is going to find himself placed at a disadvantage.

For better mechanized handling, Mr. Drake recommended carton designs closer to the brick shape. The base of a shipping container should be as broad as possible in relation to its height. It should be designed so that it can be packed solidly with no waste space—to allow for high stacking without crushing. It should lend itself to stacking on a 40-by-48-in. pallet, since those dimensions are practically standard. He also suggested that package designers and engineers consider domestic packs that could be readily converted to overseas or wartime packs.

Mr. Drake suggested that companies should set up—high in the executive level of an organization—a department of distribution to embrace all the functions that encompass physical distribution. He pointed out the importance of economies that can be obtained by knowing the problems of physical distribution. While freight rates represent from 4 to 5% of the average sales dollar, physical distribution costs represent 15% of the average sales dollar. If warehousemen could secure the cooperation of the customers and receive their products in the largest practical unitized load, ready for mechanical handling, they could in some cases cut present rates more than two-thirds, speed up service, prevent damage and pilferage.

What a Warehouse Operator Thinks About Packages—HARLAN J. NISSEN, *President, American Warehouseman's Assn.* Packaging is particularly important to the refrigeration warehouseman because the warehouse is often an actual part of the production line, as in the case of quick frozen foods. The problems of a packaging engineer do not terminate at the end of the packaging line, but in the refrigerated warehouse. If packaging engineers would consult with warehousemen, Mr. Nissen said, many problems and unnecessary costs could be eliminated. Many companies are penalized because of the smallness of their packages; frozen poultry cartons are an example. The penalty is invoked by warehousemen because of the extra cost involved in handling such small cartons. For efficient manual handling, cartons should weigh between 40 and 70 lbs., he added. Another problem of frozen food cartons is their slipperiness, making it exceedingly difficult to tie them together for stacking and handling generally. Sometimes the package is too efficient. Mr. Nissen cited poultry and meat which come into the warehouse to be frozen already packed in shipping cartons. The cartons themselves act as insulation against the cold, requiring temperature to be lowered or a longer freezing time.

Stacking is becoming increasingly important in refrigerated warehouses, since costs of building and refrigerating sprawling structures are greater than for a multiple-storied warehouse. Utilization of air heights means that costs can be lowered, but such use is only possible if the cartons can be stacked. Mr. Nissen urged that packagers not lower their packaging requirements just to meet competition. In the long run this will put them out of business. A case in point was the situation of certain egg producers when the Chicago Mercantile Board passed a ruling that certain types of fibreboard egg cases were no longer acceptable.

FRIDAY AFTERNOON—*Concurrent Session*

Adhesion Problems Seminar—*Chairman*, H. W. JOHNSTON, *Executive Vice President, Stecher-Traung Lithograph Corp.*

Proper Care of the Sticky End of the Machine—SIDNEY T. CARTER, *Chief Engineer, Economic Machinery Co.* Most labelers now in use are divided into two main types: those machines which gum the labels before they are applied to the bottle and those machines which gum the bottles before the labels are applied. Machines gumming the labels before application are in the majority.

All of these machines have a gum box, which may be one of two types. On one the gum box and the gum roll are a complete unit removable from the labeling machine. The second type has the gum roll part of the labeler with the gum box as the only removable part.

This gum box should be thoroughly cleaned at the end of each day's run, unless you are running 24 hrs. a day. In that case, cleaning should be at the end of the run.

Sometimes, instead of cleaning the gum box as instructed, a wet rag is used to cover up the top of the box and the gum roll. The next morning the machine starts up as usual; you have a few bad labels and you conclude cleaning the gum box does not mean a thing. Then it never gets a good cleaning and soon you have trouble.

Occasional spot checking will tell whether or not the label has complete glue coverage.

In addition to the gum box, pickers, transfer gum rolls, grip fingers, gum pads and pressure wipers all require attention, especially at the end of the day's run.

One more control which is *very* important is protection during rest periods and at lunch time, or between shifts.

The best insurance for ideal labeling is to:

1. Provide glass inspection with the emphasis on surface contours.
2. Keep your labeler in repair and properly adjusted.
3. Prepare your labels before loading into hopper.
4. Follow your adhesive manufacturer's suggestions for control and application.
5. Keep the pressure wipers in good working order.
6. Select an operator who is mechanically inclined.
7. Send one of your key men to the factory where your labeling machine is assembled and tested.

Adhesives and Their Properties—DR. C. G. CALDWELL, *Research Director, National Adhesives Division, National*

Starch Products Co. Adhesives are formulated from polymeric materials capable of forming continuous films of good cohesive strength and showing strong adhesion forces for various surfaces. For many years, even centuries, adhesives have utilized naturally occurring organic polymeric materials such as starch, flour, casein and animal glue. These are and will continue to be important.

Within the last 10 years, the development of polymerization reactions for the production of synthetic commercial products has expanded to the point where synthetic resins have taken their place in the form of lacquers, emulsions and hot melts as one of our most important basic materials.

A large segment of adhesives for today's packaging is based on modifications of starches derived from corn, tapioca or casava, the sago palm and potato. The most important method of modifying or converting starches for adhesive application is dextrinization which, by reducing the size of the molecular particles, permits aqueous dispersions of higher solids content.

Of considerable interest at the present time are the synthetic resin thermoplastic or "hot melt" adhesives which can be adapted either to direct application or pre-coated and activated by heat at the time of use. (The speaker illustrated the chemical structure of adhesives and their reactions in forming a bond, with a series of slides.)

Differing Problems of Adhesion Presented by Different Container Surfaces—LLOYD M. PERRY, *Chief Chemist, Nashua Gummed and Coated Paper Co.* Adhesion applies the juncture of *two* surfaces of which only one is the adhesive. It is the other, rather forgotten surface that now merits our attention.

Have you ever applied flap-sealing adhesive that wouldn't set quickly enough to hold the flaps down, or applied gummed tape that slipped because it didn't set fast enough?

Adhesives can be and generally are produced with excellent uniformity. Too little surface absorption in the carton stock could bring about this sort of trouble. The container surface is part of every adhesion problem.

The quality of an adhesive juncture is determined first by the nature (properties) of the three parts involved: (1) The adhesive, (2) the surface "A" (to be joined), (3) the surface "B" (to be joined).

It is determined also by two vital relationships of properties: (1) the relationship of adhesive to surface "A" and (2) the relationship of adhesive to surface "B."

Is the structure rigid or flexible? Is the surface porous or impermeable? Is the surface smooth or rough? Is the surface and underlying structure a homogeneous mass, or composite structure? What is its cohesive strength?

Real adhesion is more than a matter of physical form. It involves forces that are part of the inherent nature of the surface. Various types of container surface material are: (1) metal, plated metal, metal foil; (2) glass; (3) paper, paperboard; (4) cloth—coated, filled; (5) wood, plywood; (6) synthetic organic material—rigid, foil; (7) synthetic coating material—varnish, lacquer.

Protective Coatings and Laminants Adhesion Problems—A. I. TOTTEN, JR., *Reynolds Metals Co.* Aluminum foil is one of the newer entries into the packaging field and one of the basic problems encountered in the use of aluminum foil is obtaining or developing an adhesive for laminating paper to foil for general packaging purposes. The end uses necessitate an adhesive which has such qualities as water resistance, non-toxicity, absence of odor, high inhibition to corrosion, as well as excellent initial and retained adhesion to both the paper and foil.

In the case of foil beer labels, paper laminated stock was required which was waterproof, thus permitting long storage of labeled bottles in water-filled coolers without the foil separating from the paper.

There always has been a demand by the packaging field for a foil sheet which can be sealed on a great variety of existing equipment. A microcrystalline wax-coated foil stock with a thin sheet of tissue laminated to the foil was developed. When heat is applied to this material, the wax bleeds through the tissue and provides a heat-sealed seam of adequate strength.

In foil-free-film laminations, it is necessary to use either a thermoplastic adhesive, in which case the solvent component is released from the film prior to the laminating operation, or a hot melt.

Another basic problem is protective coatings and inks. Our research personnel solved the problem of erratic adhesion by treating the foil surface during the mounting operation with a miscroscopic film of an organic compound.

Whether the protective coating is used by itself, or over or under inks, it must be selected carefully so that maximum adhesion is obtained to the foil surface and to inks.

FRIDAY AFTERNOON—*Concurrent Session*

Flexible Food Package Development Seminar—*Chairman,* JOHN A. WARREN, *American Home Foods Corp. Discussion leaders:* ROBERT DE S. COUCH, *General Foods Corp.;* L. F. BORCHARDT, *General Mills, Inc.;* FRANK G. MOOREHOUSE, *National Biscuit Co.* A meeting which opened up with formal discussion of the steps in the development of a flexible food package branched out into an audience-participation session. There was a spontaneous exchange of ideas on such mutual problems as: insect infestation, degree of water-vapor protection; entire range of grease control, from resistance to staining and long-term resistance.

John A. Warren, chairman of the session, introduced the speakers and called upon them to discuss procedures they follow in planning a package for a new product.

The first speaker on the panel, Mr. Couch, proposed a hypothetical case of a coconut cake mix, presuming the package to be flexible and have national distribution. The product to be used is first put through a series of tests to determine packaging material requirements—moisture equilibrium, amount of free oil, moisture and temperature controls in so far as caking is concerned. This information he checks against existing tables for the packaging material. From those materials meeting the standards, he selects the group to form the package.

Handmade packages are prepared, the product is packaged in several different packages and subjected to accelerated tests in a weather room. A competitive product (assuming there is one) is run through control tests. If there is no competitive product, the packages are put through a series of field storage studies. Two or three areas are chosen, case loads are shipped and stored there for four months and then returned for examination.

Mr. Borchardt, the second speaker, said that his company follows practically the same procedure as Mr. Couch's. Mr. Borchardt's company does not, however, use the field-testing method, but relies on weather-room tests. They have found, he said, that the cycling condi-

tions of the weather room at 90 to 72 deg. F. and 65% relative humidity are about as severe as the package will need. Mr. Borchardt uses the machine-made package, however. The package is also exposed to light in the weather room.

Mr. Moorehouse said his company follows a simpler process, in that its products are of one kind while the two previous speakers deal with a more diversified line of products. In general, he followed the outline of Mr. Couch and Mr. Borchardt, but his problem is one of protecting a dry, crisp product (crackers). The package is tested for protection against absorption of moisture over a reasonable length of time. Also, the tendency of the fat content to leave the cracker and go into the package is studied.

Mr. Moorehouse uses a severe test for absorption of moisture, at 180 deg. F. and 90% relative humidity.

His laboratory conducts the tests set up by TAPPI for materials so that their results will be relatively consistent with those of the suppliers of the materials.

When asked what he considered to be "ordinary conditions" under which a package would be kept, Mr. Moorehouse explained that he uses the temperature and humidity prevailing in New York City during the month of July over 30 years—75 deg. F. and 70% relative humidity.

In winding up the panel discussion, Mr. Warren elected to discuss the problem from the executive rather than the laboratory point. He claimed that the quantity to be placed in each package is determined by competitive price and market conditions. He stressed the point that with supermarkets it is important to increase the number of units per packing case. The shelves in the supermarkets, he stated, are loaded once a day. If the product is sold out, it is not as a rule replenished until the next day. In this way, consumer franchise is lost.

Mr. Warren's company conducts field tests with a panel of 10,000 consumers. The reactions of these 10,000 consumers are noted and they are asked to return the package after the product is used up. It was noted that out of 72,000 packages, having detailed instructions for opening, 92.8% were opened with a knife.

In addition to the testing panel, the company goes into the different territories—Alabama, Montana, etc.—and buys up packages. They are brought into the plant laboratories to be tested. They also get detailed reports from wholesalers and retailers on returned items.

The inventory in the plant is kept down to a minimum—two weeks to one month—and, with automatic machinery, the inventory can be kept as low as 48 hrs.

Question: Do you take into consideration peaks of production? Do the sales drop off in June, July and August?

MR. COUCH: Yes, we do. We schedule production for the largest volume just preceding the greatest sales periods. We do not, however, cut inventory down.

Question: Do you test for infestation prevention?

MR. COUCH: We have found that certain products are more troublesome than others—cereals, flour, etc. All sorts of tests are run on the material (paperboard and wrap). I have found the only insectproof package is a can or a jar. Ninety per cent of the problem, however, can be eliminated with an absolutely tight seal.

MR. WARREN: My firm had a staff of 20 entomologists, headed by Dr. Cotton of the U. S. Dept. of Agriculture, run tests in supermarkets, co-ops, strong independents and some small stores in 68 cities. They found 65% infested. My contention is that if there is an opening of one three-thousandth of an inch there will be insect infestation.

Question: Do you test materials for imperviousness to flavors or odors from nearby packages?

MR. BORCHARDT: We have equipment to measure the permeability of materials, and flavor or odor transmission.

Member of the Audience: Pillsbury uses a certain test which entails taking small pieces of chipboard, sealing them in a Mason jar with a small amount of water and heating it at a high temperature for 20 min. Remove the chipboard and smell it. Repeat the performance, heating the jar at a low temperature for 3 hrs.

Member of the audience: We take sweet cream butter, wrap it in the packaging material, incubate it for 24, 48 and 72 hrs., then taste it.

Several other members of the audience volunteered methods of testing materials for flavor or odor transmission. It was brought out in the discussion that these tests are comparative rather than qualitative and could be in error since they are dependent upon the human element.

Mr. Couch asked the audience for information on tests for staining. He said that he conducted a test by putting bond paper around the product, storing it at 70 deg. F. and at 100 deg. F. He examined the paper at 24-, 48- and 72-hr. intervals. This, he said, was not conclusive and he asked how others were conducting these tests.

Mr. Couch also asked whether anyone had conducted tests to determine the fat content (amount of free oil) of the product. Several members of the audience said they had been conducting limited tests. After a brief discussion of these problems, it was decided that further study was needed and Mr. Couch suggested that a committee be formed to carry on some tests.

FRIDAY—*Concurrent Session (all day)*

Drugs and Pharmaceuticals Seminar—*Chairman,* H. EARL NACK, *Sharp & Dohme. Discussion leaders:* F. C. PELLETT, *Owens-Illinois Glass Co.;* FRED BITHERS, *The Upjohn Co.;* EDWARD S. WORDEN, *Container Testing Laboratories;* FRANCIS CHILSON, *Consultant;* C. O. KENDALL, *E. R. Squibb & Sons;* A. M. IACONO, *E. R. Squibb & Sons;* ROBERT RHODEHAMEL, *Eli Lilly Co.;* ADOLPH E. TIESLER, *Lederle Laboratories;* L. H. ZAHN, *Ciba Pharmaceutical Products, Inc.* More than 100 members representing a "who's-who" roster of leading drug firms and package suppliers met Friday morning to talk over mutual problems concerning closures for hygroscopic items, leakage of liquids, loss of volatile ingredients, tamperproofing and breakage of vials and bottles in transit.

The discussion was led off by Mr. Pellett, who represented Owens-Illinois, in place of H. A. Barnby. He approached the closure problem from the standpoint of liners capable of forming a seal against glass without water-vapor transmission, classifying the various types—wax, plastic films, metal foils, natural and synthetic rubbers—and pointing out the properties of each.

This brought up a question raised by Mr. Kendall: How does the user know when he has proper thickness for a liner backing and how can the effectiveness of a liner backing be measured in terms of mechanical function for maintaining pressure against the glass? No conclusions were reached on this question. Standards apparently vary according to the nature of the materials used both for liner facings and backings. Some firms leave the matter of thickness to the manufacturer of the liner. It was felt, however, that this could well be given more consideration.

A part of the discussion dealt with the problem of prod-

ucts such as effervescent salts which must be allowed to "breathe" to prevent the bottles from blowing up, yet must be adequately protected against moisture. All present were interested in learning of new methods for achieving this requirement and there was considerable discussion on the possibilities of one-way, valve-type closures. None apparently has been satisfactorily developed.

The audience was also interested in closure liners to eliminate the pick-up of "packer's lint." Plastic films, it appears, have an advantage in that they pick up less dust.

Mr. Nack introduced the subject of leakage. There is still much trouble with leakage, particularly with 28–38 mm., deep-skirted caps, he said, and we still don't know the answer. The problem is complicated by the wide variety of materials involved—glass, metal, plastics, adhesives, as well as various types of facings and backings—all coming in contact with each other under continually changing conditions. Sometimes a closure that is tightened by machine during the day on a production line, can be tightened almost a half-turn by hand when picked up off the line a half a day later, due to varying conditions.

"We haven't got the answer on closures yet," said Mr. Nack, "and we are not going to get it today, but everything has possibilities." Polyethylene, he said, might eventually provide a very good liner.

Practically every drug firm is looking for inexpensive, tamperproof closures. So far none has been developed to do the job under all conditions. This is particularly important for export companies. Dipping materials and spray coatings were discussed and it was felt these had possibilities except for difficulties of application and insufficient aging qualities.

Mr. Worden of Container Testing Laboratories outlined various recommendations for efficient shipping units for the packing of drug products to reduce breakage. He emphasized the need for adequate test samples, whether testing was done in the laboratory or under actual shipping conditions. "Do not make a test with one or two containers," he said. "If it is a field test, ship sufficient containers to all points. Do not base performance on unusual shipments, which may give the lowest results."

The afternoon session began with a demonstration of how four different drug firms package their products, presented by four of the discussion leaders, each describing in detail the methods his company used for the product selected.

Each speaker listed the materials used for the package—glass, closures, labels, cartons, inner packing, shippers, etc.—and equipment used to fill and seal the package.

Mr. Kendall presented a shipping unit of vitamin capsules packaged by E. R. Squibb & Sons, picked at random off the production line and shipped by truck to the meeting. As he opened it, he commented on the points where the packaging deviated from specifications as a test example to illustrate production problems to be watched.

Mr. Zahn's demonstration was that of a package for Privine solution put out by Ciba Pharmaceutical Co. packed in a shipping container holding six packages, each containing a dozen individual 1-oz. packages. A feature of this package of particular interest to the audience was the stapled carton top and bottom, which the company has found to be flatter than a taped package for stacking. The cartons include a dropper. Filma-seals used on the bottles were believed to have reduced rejects considerably.

Mr. Rhodehamel showed a penicillin product put out by Eli Lilly packed in a 12-cc. bottle with 13-mm. finish to hold 10 cc. of product, thereby providing allowance for shaking the solution before use. The bottle is equipped with a Neoprene stopper, aluminum cap and a dust cap. He said the bottle was being changed to a 20-mm. finish to give a larger surface to hold when shaking the bottle. This penicillin preparation is packed 10 to a carton. This raised a question from the audience concerning the advantages of packing in units of 10's versus dozens. One disadvantage to 10's, some felt, was the difficulty of arranging 10's in a package. Dozen units fit carton shapes better.

Mr. Nack demonstrated a package for a Sharp & Dohme product used in the treatment of wounds, equipped with dust cap, rubber disk and rubber washer lock closure on a bottle. The product had been on the market three years, he said, and was doing a good job.

The subject of table counting and filling was introduced by Mr. Chilson, who said that to date there was no universal tablet-counting machine that would handle all sizes and shapes of tablets. He mentioned the wide diversity of tablets—as many as 200 different sizes and forms—used in the drug industry and pointed out the advantages of standardization. His statement that there was no universal machine for tablet counting was challenged by two members of the audience who described new machines to be introduced in the near future which, they claimed, would be the answer to all problems in tablet counting.

Minimizing change-over time for the cleaning of filling, capping and labeling machines is of prime importance to the ethical drug industry, because of small production runs of many products on the same equipment.

Mr. Tiesler of Lederle Laboratories described several aids for cutting down change-over time. First, consideration should be given to all possibilities for long-term scheduling to eliminate unnecessary change-overs. Package sizes and shapes should be standardized as far as possible to minimize the change-over of specialized machinery parts. Specifications should be carefully written for all packages so that there is no wasted time in assembling materials for the packages or parts for the machines. A set-up staff should be organized and familiarized with all change-over problems. Equipment should be cleaned regularly and continuously with portable vacuums and other cleaning devices to minimize delays for clean-up during the change-over period. Portable production equipment that can be transferred from one line to another easily and quickly is also helpful in cutting down lost time.

The meeting was characterized by a desire on the part of those present for more cooperation and an opportunity to discuss mutual problems. It was pointed out that ethical drug firms sell a product and not a package. By and large, the companies are not competitive in packaging. They are all interested in packages primarily to give maximum protection and utility at the lowest possible cost. By closer cooperation, it was felt that all could contribute to the solution of many difficult problems common to all.

As the result of this interest, Mr. Kendall proposed the setting up of a standing committee within the Packaging Institute, comprised of a representative from each drug firm. A steering committee of six would be appointed to screen the various projects under consideration and to decide whether the drug and pharmaceutical group should get together between the annual meetings.

After discussion from the floor, Mr. Nack was appointed chairman to head up the steering committee for mapping out a program and perhaps issuing monthly reports.

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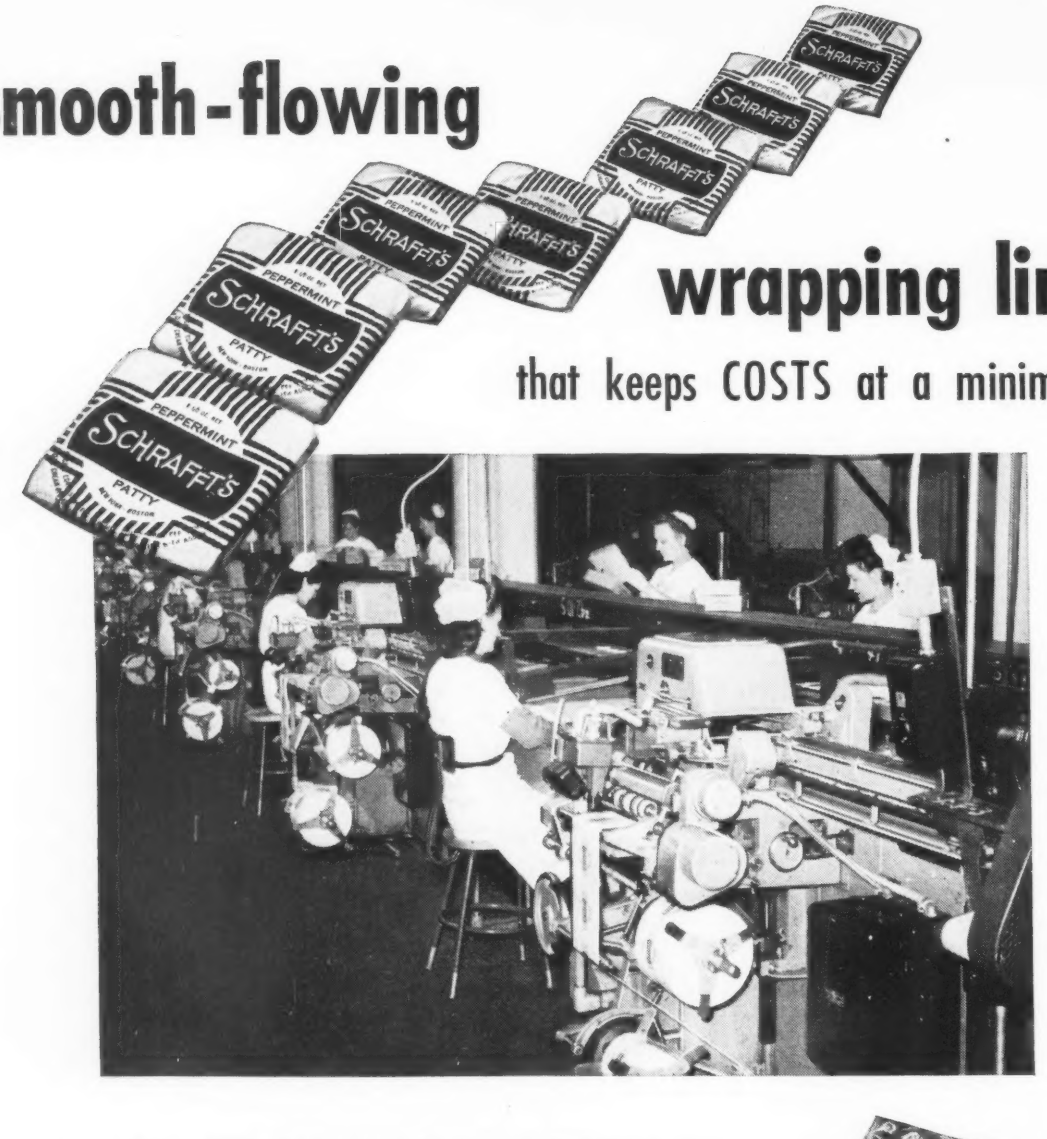

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S-POLYMER FILMS*

A new transparent packaging material. Laboratory studies indicate superior protection for fresh and dried fruits through the control of moisture and gas transmission rates. By R. G. NEWBERG†, J. R. BRIGGS† and W. A. FAIRCLOUGH**

It has been recognized that for several years a significant change has been taking place in the average American's eating habits. These changes involve the farms, processing plants, food stores and the homes. Today the objective is to feed American families as wholesomely and as economically and efficiently as possible.

Much research work has been carried out in recent years to develop techniques and materials for packaging and transporting fresh foods, frozen foods and dried foods to the consumer in such a manner as to provide the ultimate in quality and economy. By far the largest field is that of fresh foods. Seventy per cent of all food is eaten fresh. This has been increasing over the last several years and necessitates radical changes in handling fresh foods and has stimulated the present trend toward pre-packaging. Various chain stores have taken an active interest in the field to the extent of financing quite comprehensive research programs. The vegetable-growing industry of California and Arizona decided to support a long range plan of research (3).[1] To date the results of such investigations are extremely encouraging and have brought out some interesting points. Respiratory breakdown and decay can be controlled by chemical treatment and the use of a proper packaging material. Satisfactory packaging

* Presented before the summer session of the American Chemical Society, Division of Rubber Chemistry, Los Angeles, July 23, 1948, under the title "S-Polymers for Fresh and Dried Fruit Packaging"; published here for the first time.

† Of the Standard Oil Development Co., Elizabeth, N. J.

** Of the Enjay Co., Inc., New York.

[1] Numbers in parentheses refer to "References" appended.

FIG. 1

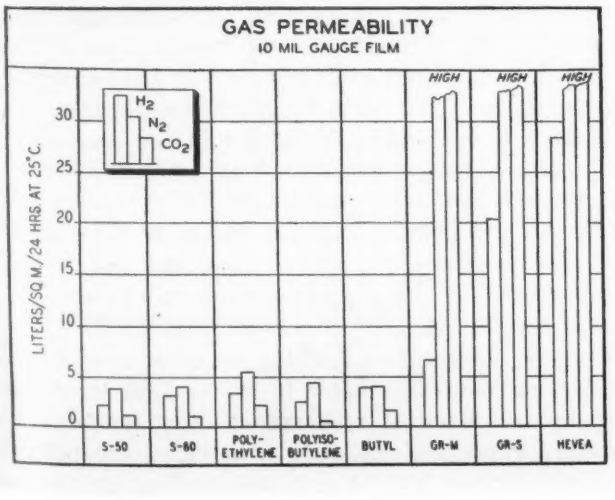
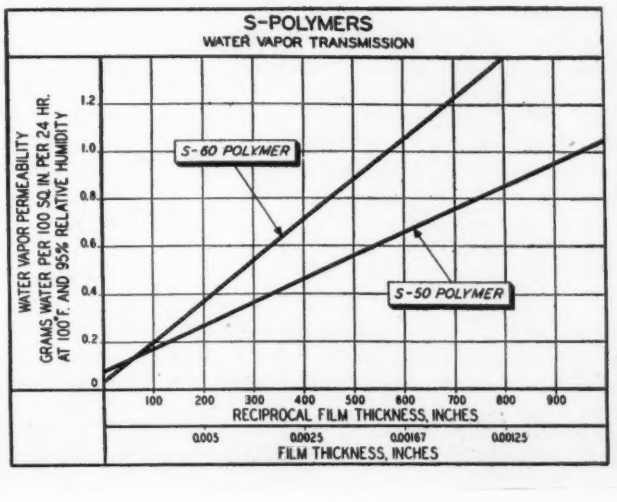


FIG. 2



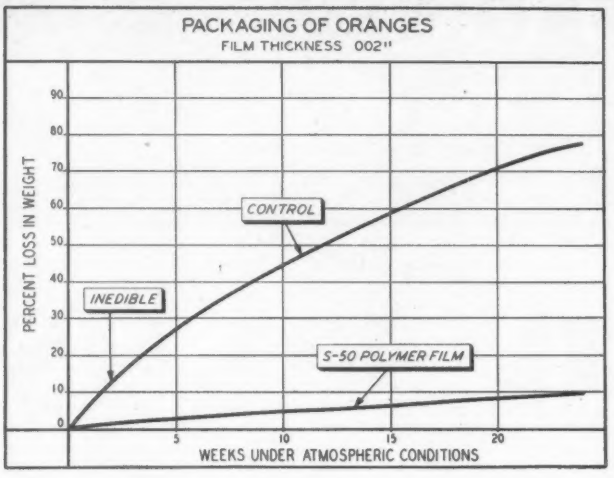


FIG. 3

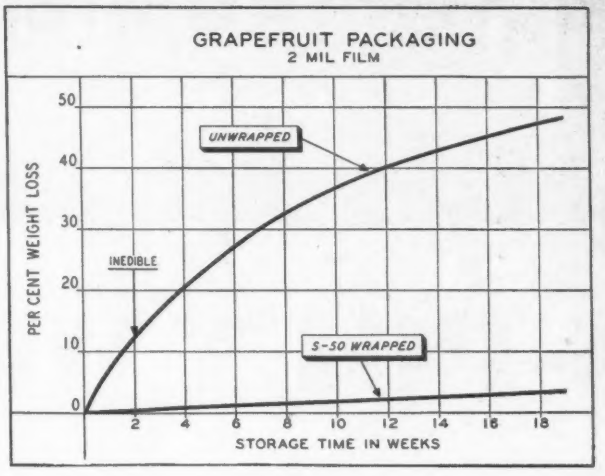


FIG. 4

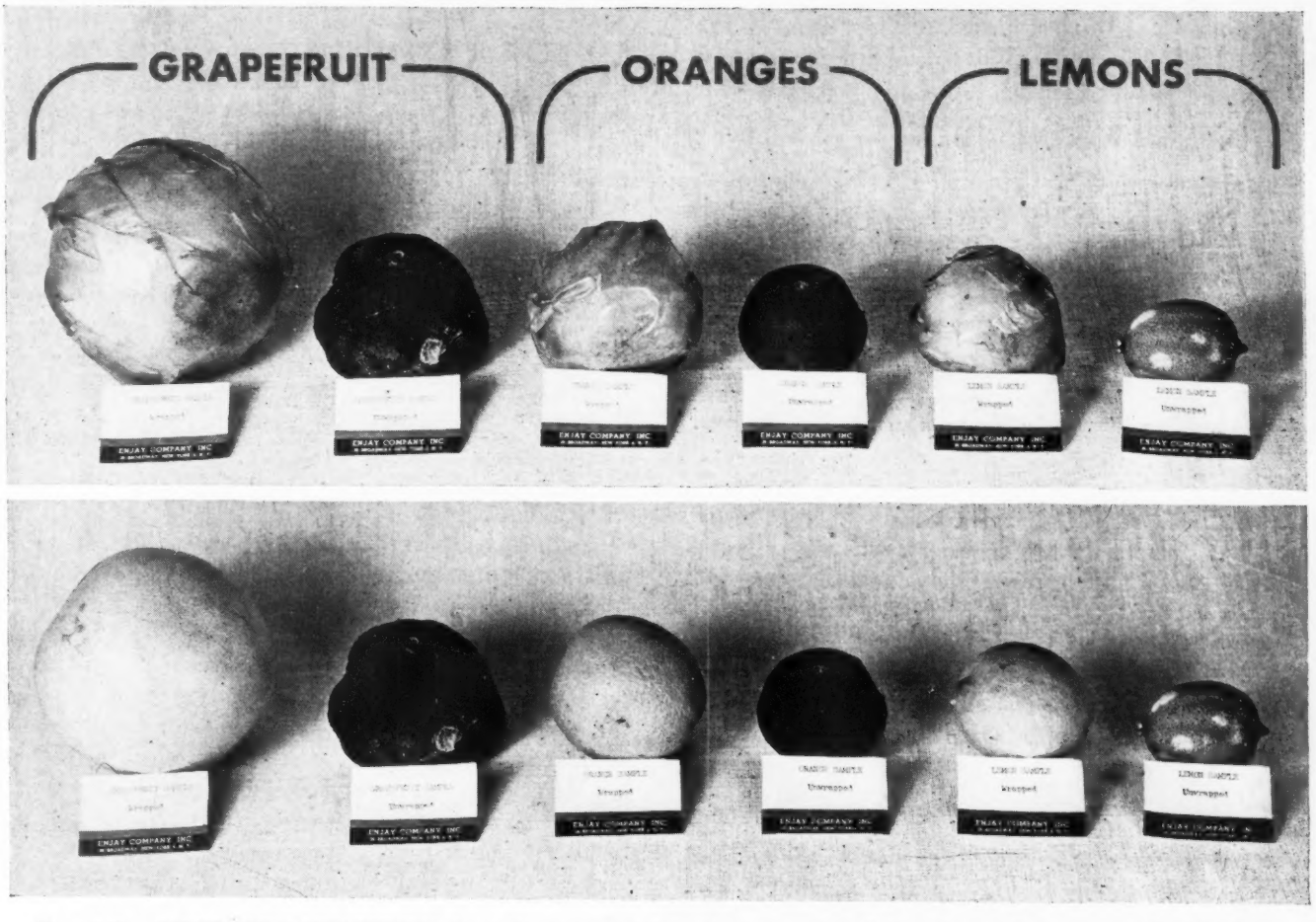
TABLE I—PHYSICAL PROPERTIES OF S-POLYMERS

	S-50	*S-60*
Molding qualities	Good	Excellent
Compression molding temperature, deg. F.	280–340	300–360
Compression molding pressure, p.s.i.	300–2000	300–2000
Injection molding temperature	...	300–375
Specific gravity	0.98	0.99
Tensile strength, p.s.i.	1000–2000	1500–3000
Elongation, per cent	400–600	200–300
Compressive strength, p.s.i.	...	16,000
Flexural strength, p.s.i.	...	4000
Impact strength, ft.-lbs./in. notch		
Izod—cantilever beam	...	0.3
Charpy—simple beam	...	10
Hardness Rockwell	...	M–10
Coefficient of cubical expansion, cm.^{3}/ deg. C.	1250×10^{-6}	1275×10^{-6}
Distortion under heat, deg. C.	...	40
Light transmission on films 0.0015 gauge	75%	90%
Refractive index	1.5505	1.5591
Water absorption, per cent by weight	0.1–0.12	0.1–0.11
Burning rate	Fast	Fast
Effect of sunlight	Very slight	Very slight
Heat softening point, deg. C.	45–55	55–65
Water-vapor permeability, gm. H_2O/100 sq. in./24 hrs. for 4 mil gauge film	0.3	0.8
Gas permeability, hydrogen, liters/sq. m/24 hrs. at 25 deg. C. for 10 mil gauge film	1.79-2.1	2.11-3.1
Effect of organic solvents	Soluble in aromatics, aliphatics, halogenated hydrocarbons, ketones	Soluble in aromatics, aliphatics, halogenated hydrocarbons, ketones
Appearance, clarity	Slightly opalescent	Slightly opalescent

machines have been invented and built. Experiments on many types of films for packaging have demonstrated that in order to be effective such materials must be highly resistant to the penetration of water vapor and gases.

Recently a new series of all-hydrocarbon thermoplastic resinous copolymers was announced (1). These materials, designated S-Polymers, are high molecular weight saturated copolymers of styrene and isobutylene produced by low temperature polymerization techniques (2). They are somewhat unique among plastics and resins since they can be used alone as a plastic or they may be combined with other plastics and several of the elastomers. They exhibit rubber-like elastic properties in addition to their thermoplastic characteristics. Most of the work to date has been confined to two polymers, S-50 and S-60. Some of the most interesting properties of these resins, particularly those characteristics relating to the work reported in this paper, are shown in Table I. The two plastics are quite similar with the exception that S-50 is softer and more rubber-like than S-60. Those properties which attract much notice are good physical strength, pleasing appearance, good light transmission and excellent resistance to the penetration of moisture and gases. The polymers handle easily and may be processed by the conventional equipment employed in the plastics and rubber industries. They may be banbury or mill compounded, cast, molded, extruded and calendered into attractive self-supported films. The work reported in this paper will be concerned mainly with the resistance of S-Polymers to the penetration of water vapor and gases and the application of this property to the packaging of fresh and dried fruits.

The experiments on S-Polymers, as mentioned earlier in connection with Table I, showed that these resins possessed excellent resistance to the penetration of water vapor and gases. Furthermore, the polymers could be processed to form thin self-supported films.



5 and 6. **PHOTOGRAPHIC STUDY shows (upper photo) fruits wrapped in S-50 polymer film compared with those unwrapped, after 19 to 24 weeks' storage. Lower photo shows same fruit, after storage, with wrappings removed.**

Such films, being transparent, might be fabricated to provide very attractive packages. These properties indicated that these plastics might prove ideal for packaging applications.

It is the purpose of this report to discuss some experiments carried out with S-50 Polymer which demonstrate its applicability for the packaging of foods. In all the fresh fruit packaging work described here the fruit was dipped in a 1% solution of sodium borate prior to wrapping. This was done to minimize mold and fungus growth.

Although the work reported here is confined to S-50 Polymer, it is worth mentioning that S-60 is also being investigated for packaging with gratifying results. It is suspected from preliminary experiments that S-60 may prove to be superior to S-50, since the former is more transparent, has a higher blocking temperature and is also very resistant to the penetration of water vapor and gases.

Moisture and gas permeability

It was mentioned previously that experiments with S-Polymers showed them to have good resistance to the penetration of gases and water vapor. In Fig. 1 are shown some data on the gas resistance of S-Polymers compared to several other plastics and elastomers. It is immediately apparent that the S-Polymers are quite comparable to or better than the best film materials in current use today.

In Fig. 2 are shown some characteristic data on calendered film in which the water-vapor transmission is plotted against film thickness. As is characteristic of hydrocarbon film materials, the transmission is inversely proportional to the thickness. It is also notable that even extremely thin films provide excellent barriers to the penetration of water vapor.

Other properties of S-Polymers

In addition to the good resistance of S-Polymers to the penetration of gases and moisture, these resins have other properties which suit them for packaging applications.

These include clarity and good processability. Light-transmission tests revealed that, in thin films, S-60 Polymer is quite comparable to cellophane in transparency.

The resins may be calendered, extruded or cast into self-supported films using conventional plastic- or rubber-fabricating equipment. The films are quite strong and tear resistant. In general a food packaging material must heat seal readily at relatively low temperatures. These resins will heat seal satisfactorily at

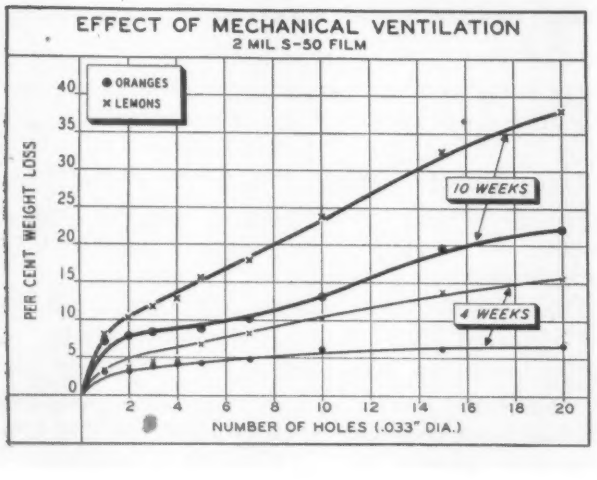
temperatures of 220 deg. F. and up. They may, therefore, be adapted quite readily to conventional packaging equipment in current use.

Fresh fruit packaging—storage experiments

Preliminary tests revealed that simple solution casting of S-60 Polymer on fresh lemons prevented the fruit from dehydrating, but did not prevent spoilage of the fruit for even a relatively short storage time. Immediately this experiment suggested that these polymers were too resistant to the transfer of gases and that they restricted the respiration of the fruit too much. Much work has been done by many investigators on the chemical changes which occur during the storage of fresh fruit. It has been well established that fresh fruits and vegetables differ from processed foods in one important respect: they remain living organisms until they are cooked or consumed. Being living matter, they experience the normal life processes, they continue to respire, they lose water in transpiration and they are subject to slow chemical changes. All of these processes, of course, contribute to the gradual deterioriation of the product. Thus ideal packaging demands that these normal life processes should be retarded without, however, stopping them altogether. A balance should be established so that the vital food elements are maintained constant in nearly the same quantity and quality as the fresh fruit. Platenius (4) states that the ideal film would be one which permits the diffusion of oxygen, just enough to maintain an oxygen concentration of from 3 to 5% in the package. This balance may be accomplished by controlling the amount of oxygen inhaled by the fruit and restricting therefore the amount of aerobic respiration. At the same time, dehydration is controlled and restricted to avoid excessive drying through loss of moisture. The life of the fruit, of course, depends on how long its supply of stored foods will hold out against oxidation.

In view of these observations and the early experiments with solution coating of fruit with S-Polymer, some other investigations were conducted in which fresh lemons, oranges and grapefruit were placed in S-50 bags and the tops of the bags were closed merely by twisting. This did not make the containers air tight and the fruit did obtain a limited amount of oxygen. At the same time transpiration of the moisture was limited. Figs. 3 and 4 depict the weight loss during this extended storage test. The fruit survived in a very satisfactory condition. They retained all the characteristics of freshly picked fruit and exhibited a very low weight loss. In Figs. 5 and 6 are shown typical photographs of fruit which were stored for 21 weeks under ordinary atmospheric conditions. Fig. 5 shows the fruit as packaged. Fig. 6 shows the fruit with the S-50 Polymer film removed after termination of the test. The contrast is quite striking.

FIG. 7



Experiments on controlling gas permeability

Comprehensive studies of the permeability characteristics of films have been conducted by several research workers to determine proper methods for securing a balance of respiration and transpiration. Platenius (4) concluded after studying a number of films in current use that some degree of ventilation must be provided, since they are all too impermeable to allow an adequate supply of oxygen. Consideration of the problem suggested that with S-Polymers there were two possible lines of attack. One method consisted of a means of ventilation of the packages which would mechanically provide the proper degree of permeability to carbon dioxide, oxygen and water vapor. The second possibility was the incorporation of modifying agents in the resin which would raise the permeability to a high enough level to provide the balance desired. Both methods were investigated with encouraging results.

Ventilation. The advantages of ventilation were demonstrated in the following manner. Fresh oranges and lemons were sealed in S-50 bags. These bags were constructed from 2-mil calendered film. The film was carefully inspected to assure no pinholes or imperfections. After sealing the fruit in the bags, holes 0.033 in. in diameter were punched so as to provide a range of zero holes up to 20. The fruit was then stored at ordinary atmospheric conditions (70 to 90 deg. F. and 50 to 100% relative humidity). The weight loss and failure were noted over a period of several weeks. The results are depicted in Fig. 7. The fruit packaged in bags with no holes showed complete failure in less than four weeks. The packages became quite distended, with the accumulated gases resulting in some cases in ruptured film. Furthermore, the fruit molded rapidly and in less than two weeks were quite inedible. The fruit packaged in ventilated bags (even as little as one hole) survived for the duration of the test (10 weeks) and were satisfactorily edible and pleasing in appearance. As was expected, the greater the magnitude of ventilation, the higher the weight loss from dehydration. It appeared evident from this work that even a small amount of ventilation was quite adequate.

Modification. The second method for increasing

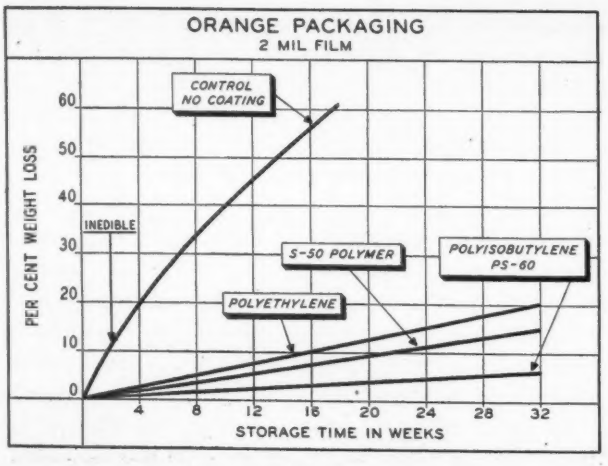


FIG. 8

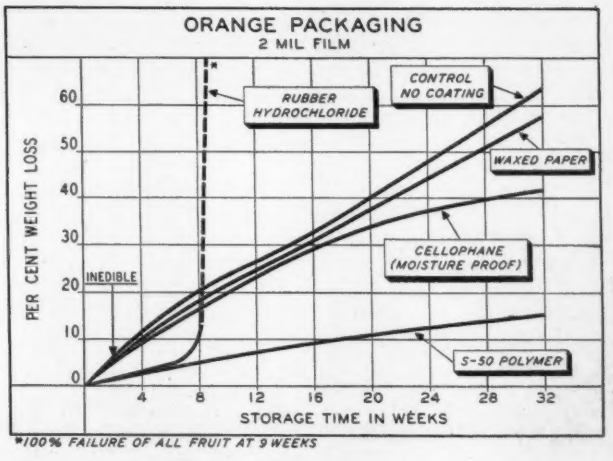


FIG. 9

oxygen transfer, namely, modification of the resin to increase the gas permeability, was believed to be possible since the S-Polymers adapt themselves readily to compounding and are quite compatible with a number of waxes, elastomers and other resins. It was therefore thought that compounding with materials less resistant to CO_2 transfer might increase the S-Polymer permeability and secure the balance sought. To check the logic of this, three modifying agents were blended with S-Polymers, films were made and their gas permeability determined. The modifying agents included spermaceti wax, GR-S and natural rubber. All these are known to be poor barriers for carbon dioxide. The results of this work are shown in the accompanying Tables II, III and IV.

It will be noticed that the use of spermaceti wax (Table IV) increased the CO_2 permeability, but decreased the hydrogen transfer. The use of GR-S and natural rubber (Tables II and III) not only increased carbon dioxide, but also hydrogen permeability. These results indicate that through the use of modifying agents, the need for ventilation may be eliminated. No further experiments were conducted along this line, but the results seem to offer some encouraging possibilities.

TABLE II—GAS PERMEABILITY OF S-50, NATURAL RUBBER AND BLENDS
(Liters/sq. m./24 hrs./10 mil thickness @ 25 deg. C.)

	100 parts S-50	*100 parts natural rubber*	*90 parts S-50, 10 parts natural rubber*	*80 parts S-50, 20 parts natural rubber*	*60 parts S-50, 40 parts natural rubber*
H_2 permeability	1.79	28.4	2.49	2.84	...
CO_2 permeability	0.080	...	0.333	0.435	0.447

TABLE III—GAS PERMEABILITY OF S-50, GR-S AND BLENDS
(Liters/sq. m./24 hrs./10 mil thickness @ 25 deg. C.)

	100 parts S-50	*100 parts GR-S*	*90 parts S-50, 10 parts GR-S*	*80 parts S-50, 20 parts GR-S*	*70 parts S-50, 30 parts GR-S*	*60 parts S-50, 40 parts GR-S*
H_2 permeability	1.79	20.3	2.51	3.42	3.67	4.65
CO_2 permeability	0.080	11.1	0.309	0.265	0.318	0.369

TABLE IV—GAS PERMEABILITY OF S-POLYMERS AND WITH SPERMACETI WAX BLENDS
(Liters/sq. m./24 hrs./10 mil thickness @ 25 deg. C.)

	100 parts S-50	*80 parts S-50, 20 parts sperma-ceti wax*	*70 parts S-50, 30 parts sperma-ceti wax*	*100 parts S-60*	*80 parts S-60, 20 parts sperma-ceti wax*	*70 parts S-60, 30 parts sperma-ceti wax*
H_2 permeability	1.79	1.74	1.45	2.11	1.73	1.14
CO_2 permeability	0.080	0.149	0.103	0.179	0.185	0.201

Comparison of S-Polymers with other films

For several years many materials have been investigated and used for packaging operations. Such agents were promoted for several reasons, including increase of storage life, promotion of salability or sales appeal of a product, and protection of certain perishable goods. Among those packaging mediums in current use today, the most popular is cellophane. This material has, as its most important attribute, attractive appearance. It is colorless and therefore enhances the sales appeal of many consumer items. It is not particularly resistant to the penetration of moisture and gases and therefore is not completely satisfactory for many applications requiring these specific properties. In addition, it exhibits a tendency to become brittle after relatively short periods of aging. Other materials in current use include polyethylene, rubber hydrochloride, waxed paper, etc. In each case these packaging media leave something to be desired in the way of appearance, retention of properties, moisture and gas

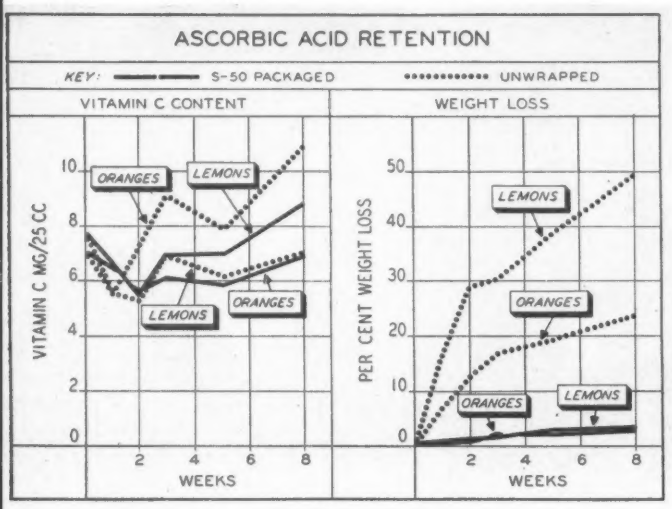


FIG. 10

permeability, flexibility or some other important characteristic.

In order to determine how S-Polymers might compare to some of these other materials, packaging tests on fresh oranges were carried out. In this series of experiments, all packages were made up as nearly as possible from films of equal thickness and were ventilated to about the same degree. The fruit was carefully selected so that only specimens free of bruising were used. Storage conditions ranged between 70 and 90 deg. F. and 40 to 100% relative humidity. The results are shown in Figs. 8 and 9. The film (polyisobutylene-PS-60, shown in Fig. 8) was calendered from a blend of high molecular weight polyisobutylene containing 15% PS-60. The latter material is a low molecular weight S-Polymer which possesses the unique characteristic of being an excellent processing aid for natural rubber and for the synthetic elastomers such as butyl, GR-S and acrylonitrile rubbers. S-50, polyethylene and the experimental blend polyisobutylene-PS-60 were quite comparable, as might be expected, since they all are good in water-vapor resistance. Rubber hydrochloride film showed a low weight loss, but the fruit failed 100% before nine weeks had elapsed. No explanation can be offered for this high percentage of failure. The controls having no protective wrapping and those fruit wrapped in moistureproof cellophane and waxed paper showed about the same high weight loss and in all these latter cases the fruit was inedible after about two weeks. In all the tests, S-50-wrapped fruit showed the lowest percentage of failures. Even at the termination of tests, those fruit wrapped in S-50 were firm, possessed the appearance of being freshly picked and were satisfactorily edible. The only observation which could be drawn concerning their edibility was that the fruit were, if anything, improved in taste since they might have ripened slightly.

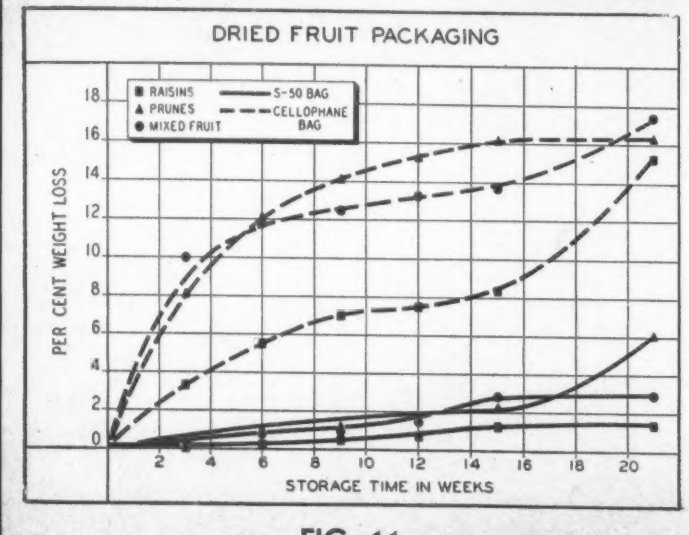


FIG. 11

Vitamin retention

The retention of food value is of prime importance in the consideration of packaging materials. This is especially so in fresh fruit packaging where the vitamin content determines the ultimate value of the food. It was suspected that if a proper balance could be established between transpiration and respiration, not only would the life of the fruit be prolonged, but also the content of vitamin C (ascorbic acid) would be maintained at a high constant level. In order to determine this point, a large number of fresh lemons and oranges was packaged in 2-mil calendered S-50 film made up into ventilated packages. Again the fruit were stored under ordinary atmospheric conditions. These fruit were assayed for ascorbic acid content at intervals over a period of eight weeks. The method of assay was the technique reported by Bessey and King (5). The method is reported to be accurate to within 2 to 3% for lemons and slightly less accurate for oranges. The results of these experiments are shown in Fig. 10. The significant feature of this work is the fact that packaging using S-50 Polymer film containers does retain a high level of vitamin content. This is accompanied by a very low weight loss. The controls, unpackaged, also showed a high retention of vitamin which may be attributed to an abnormal concentrating effect since the fruit became dehydrated very rapidly and the weight loss was high.

Experiments with dried fruits

The excellent resistance of S-Polymers to the penetration of moisture and gases indicated that films of these resins should make excellent containers for dried fruits. Stadtman, Barker and other workers (6) report that retention of high SO_2 and moisture seems to give maximum results in the storage life of apricots. These investigators (7) also indicate that oxygen increases the rate of darkening of apricots and unlimited supplies of oxygen will decrease the storage life as much as 30% compared to vacuum pack. It (*Continued on page 204*)

PACKAGE STRUCTURE AND WVP

In water-vapor barrier problems, much depends on the style of container and type of closure used. By C. G. LAVERS*

The importance of water-vapor-resistant packages has been stressed often enough to make further comment here unnecessary. Those packagers whose products require protection against loss or gain of water-vapor are usually aware of the fact and, if they are not, it will probably not be long before they find it out when complaints begin and sales drop.

In this paper I propose to deal only with flexible water-vapor barriers. Many reports have appeared in the technical literature on methods of testing the water-vapor permeability of sheet stocks and on the results of such tests (1–9).[1] However, comparatively little information has been published on the effect that the style of container produced from these barriers—or the method of closure used—has on the water-vapor resistance of the completed package.

The importance of this kind of information can be readily appreciated, since it has been shown (10) that the water-vapor permeability of sheet stocks may increase from $^1/_5$ to 60 times after folding and that the permeability of completed packages may be from two to 10 times as high as might be expected from tests using the sheet material. Possibly the reason that little has been published on the relative resistance of different types of packages is that it is more difficult to interpret such data, obtained by testing complete packages, and apply the results to a somewhat different situation. It is believed, however, that most of the factors of package construction discussed in this paper are sufficiently general to be applied to many situations.

Flexible water-vapor barriers are often used in conjunction with a fibreboard carton, either as a carton liner bag or as an overwrap. When similar construction is used, the carton liner and the carton overwrap give the same protection against water vapor for packages that are not handled. However, it has been shown experimentally (5) that, after handling, the carton liner gives a superior degree of protection.

In this experiment cartons (4 by $2^3/_4$ by $1^{15}/_{16}$ in.) were filled with sawdust and were overwrapped or contained a liner bag. The cartons were then packed in a corrugated case capable of holding 72 of them and were subjected to rough handling. Three different conditions of rough handling were employed (see Table I) and both a light (450-MSYT[2] cellophane) and a heavy (Reynolds Metals A-10, a lamination of kraft to metal foil to cellophane) barrier material were used. After handling, the barriers were examined visually for pinholes and fractures. The results, summarized in Table I, indicate the greater ability of the carton liner to withstand rough handling.

Unfortunately, glued tight wrappers (i.e., wrapper glued to carton over its entire surface) were not included in this study, but they should be considered in future work.

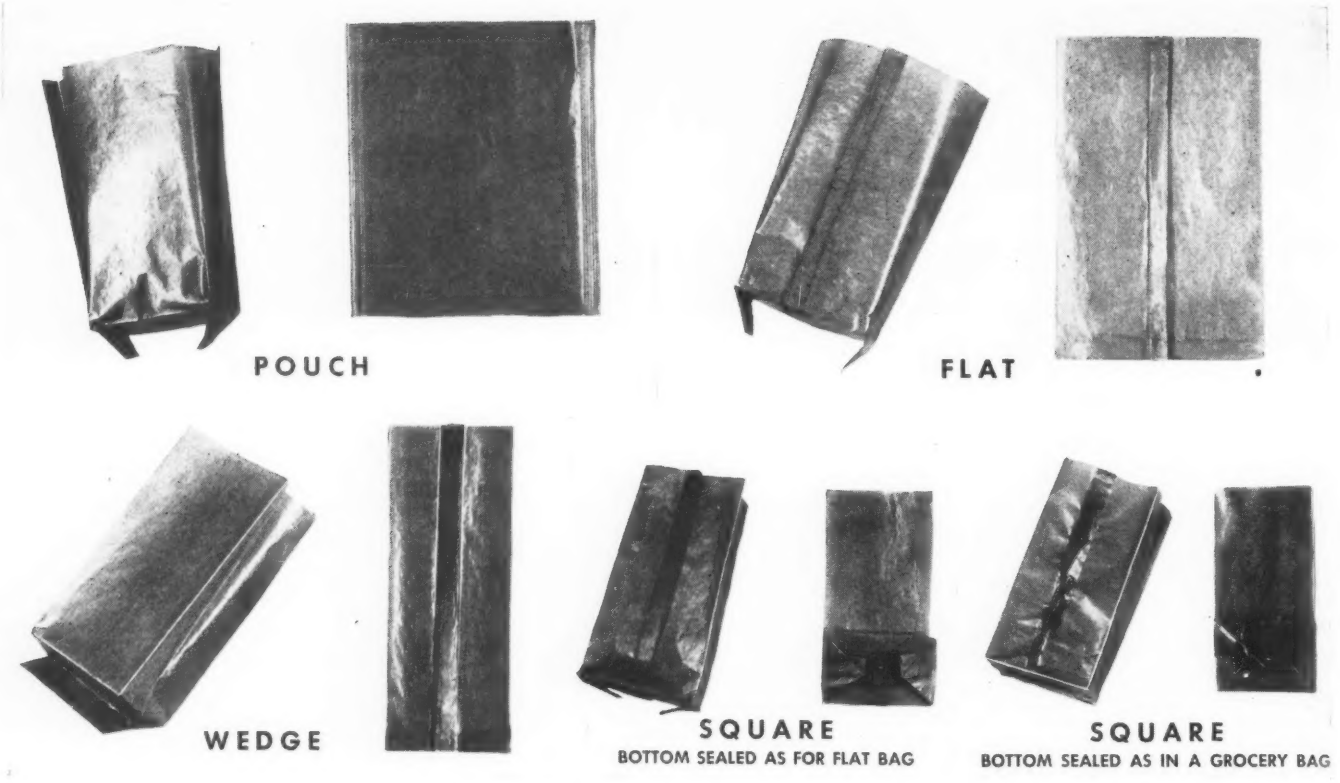
The above experiment indicates the desirability of the carton liner and since this is a very common method of applying a water-vapor barrier, it would be advantageous to know which types of liner bags provide the greatest protection. A recent experiment (6) has elucidated some points in this regard.

The styles of bags tested are shown in Fig. 1 and since there is no universally accepted system of naming bags, the names indicated were assigned. The "pouch" bag requires only a seam at either side and provides the least possible opportunity for water-vapor transmission through seams and seals. The "flat" bag has one seam at the side and one along the bottom; the junction of these two seams is a possible point of entry for water vapor. The "wedge" bag also has one seam at the side and one along the bottom, but gussets have been added, providing still more possible points of entry for water vapor. "Square" or self-opening-style bags made with glue-sealed seams were tested with both the common grocery-bag style of bottom and with a "flat" seal (Fig. 2) on the bottom. The transmission rate of this style of bag with a flat seal on the bottom might be expected to be comparable to that of a flat-style bag, unless the

TABLE I—SUMMARY OF FACTORS AFFECTING THE FRAGILITY OF WATER-VAPOR BARRIERS CONSIDERED OVER OTHER CONDITIONS

	Per cent of barriers		
Factor	*Unbroken*	*With pinholes*	*Fractured*
Method of providing barrier			
Liner	44	35	21
Overwrap	25	26	49
Material			
Cellophane	44	14	42
Reynolds Metals A-10	25	47	28
Method of handling			
3-ft. drop, 20 falls at −40° F.	4	29	67
3-ft. drop, 20 falls at approx. 75° F.	29	50	21
70-ft. drop (approx.), single fall at approx. 75° F.	71	12	17

* Research Dept., Maple Leaf Milling Co., Ltd., Toronto, Canada.
[1] Numbers in parentheses refer to "References" appended.
[2] Designation used by Canadian Industries, Ltd., for a plasticized type of cellophane with improved flexibility.



1. STYLES OF BAGS used in test. Simple pouch offers least opportunity for WVP through seams and seals.

material is sensitive to the added creasing required to produce the "square" style. Most of the bag styles were tested using both glue- and heat-sealed construction.

Besides testing different styles of bags, several types of final closures were checked. Two of these are shown in Fig. 2. In addition, unsealed single- and double-fold closures, with and without a tin-tie, were tested and on bags made from heavily waxed material a pressure seal made by running a dull pencil point across the mouth of the bag was examined.

Since it is quite possible that a very vapor-resistant package could be made in a given style from one material but not from another, four different materials with widely varying characteristics were chosen for this investigation. These were: Reynolds Metals A-51 (kraft paper laminated to metal foil coated with a thermoplastic); 300-MSAT cellophane coated 40 lb. per ream with a flexible wax composition; 55-lb. laminated bleached glassine coated on one side with a heat-sealing composition, and 300-MSAT cellophane.

The various combinations of bag style, closure and material that were tested are shown in Table II.

The method of measuring water-vapor transmission rates involved fabricating the materials into liners for cartons (4 by $2^{3}/_{4}$ by $1^{15}/_{16}$ in.), filling them with sawdust and 73.5 gm. of anhydrous calcium chloride, closing and storing in a cabinet operated at 95 deg. F. and 98 to 100% relative humidity. The rate of moisture gain was determined by weighing each package at weekly intervals for four weeks.

Water-vapor transmission rates of the various types of bags tested are shown in Table II. These values indicate the slope of the line showing weight gain per week of the package contents over a period of a month, assuming a straight-line relation.

Results

There was little difference in the water-vapor resistance of the various styles of liner bags when made from Reynolds A-51 or from the wax-coated cellophane. This is logical, since Reynolds A-51 is a heavy material not sensitive to creasing and, with the wax-coated cellophane, the heavy wax coating, when melted in heat sealing, flowed into corners that might be left open with other materials. With both glassine and unwaxed cellophane, however, the efficiency of the liner bag decreased as the complexity of construction increased, i.e., from pouch to flat to wedge to square style. This was attributed to two factors in the case of glassine: increased difficulty in sealing and the additional folding required to make the more complex bags. Glassine, being a rather brittle material, develops pinholes relatively easily when folded. With cellophane, the loss of efficiency was probably due chiefly to increased sealing difficulty, since this material is very thin and difficult to crease.

There was little difference in performance between glue- and heat-sealed construction when the liners were formed from glassine; with Reynolds A-51, heat sealing was only slightly superior, but with cellophane, heat-sealed liners showed greater resistance to water-vapor

TABLE II—WATER-VAPOR TRANSMISSION (GM. PER WEEK)[1] OF VARIOUS TYPES OF LINER BAGS
Standard error for mean transmission rates, 0.32 gm. per week

Construction and type of bag	*Closure*	*Packaging material* — *Reynolds Metals A-51*	*300 MSAT cellophane coated 40 lb./ream with wax composition*	*55-lb. laminated bleached glassine, coated with a heat-sealing composition*	*300 MSAT cellophane*
Glue sealed	Glue sealed				
Pouch	Flat	0.26	...	1.29	2.86
Flat	Flat	0.22	...	1.98	4.91
Wedge	Wedge	0.26	...	1.75	5.78
Square, bottom sealed as for flat bag	Wedge	0.22	...	2.25	3.74
Square, bottom sealed as in a grocery bag	Wedge	...	...	2.33	3.74
Heat sealed	Heat sealed				
Pouch	Flat	0.0	0.29	1.24	1.46
Flat	Flat	0.17	0.47	1.39	2.53
Wedge	Wedge	0.34	0.43	1.70	2.78
Square, bottom sealed as for flat bag	Flat	0.0	0.44	3.43	3.78
	Wedge	0.0	0.83	2.92	4.16
	Unsealed				
Pouch	Single fold, tin-tie	0.0	...	...	...
	Double fold, tin-tie	0.0	...	...	...
Square, bottom sealed as for flat bag	Double fold, flat	0.19	0.53	3.24	4.68
	Double fold, wedge	0.21	0.82	3.10	4.69
	Pressure sealed				
	Double fold, flat	...	0.60	...	...
	Double fold, wedge	...	0.56	...	...
	Single fold, flat	...	0.62	...	...

[1] Each figure represents an average for six packages, corrected for sorption of water vapor by the packaging materials themselves.

transmission than did those made with glue. This also is explainable in terms of the relative ease of creasing of these materials. With cellophane, which is very thin and has a high degree of spring-back, it is difficult to obtain good glue seals.

The efficiency of the unsealed, folded closure also depended on the spring-back of the material from which the liner was made. When glassine or waxed cellophane (this material holds a crease readily) were used, a folded closure was as good as a heat seal. Reynolds Metals A-51 showed only a very slight difference between a folded closure and a heat seal, and the addition of a tin-tie removed even this slight difference. With unwaxed cellophane, a folded closure was inferior to a heat seal. It might be mentioned that a well-filled package is necessary with a folded closure so that the top of the carton will hold the fold in place.

While all of the liner bags used in this study were carefully made in the laboratory, and therefore the results may not correlate exactly with those obtained using commercially formed bags, nevertheless, the results should represent the relative effectiveness of the various bag types, closures and materials.

Summary

If handling is to be encountered, a carton liner is a more effective method of applying a water-vapor barrier than a carton overwrap.

If materials are used that are readily sealed and not sensitive to creasing, such as Reynolds A-51 or waxed cellophane, they can be formed into liners with high water-vapor resistance regardless of the type of bag used. However, materials sensitive to creasing, such as glassine or thin springy materials like unwaxed cellophane, are best utilized for the simpler types of bags. Materials that crease readily and are easily glued, such as glassine, provide bags of equal merit using heat- or glue-sealed construction, and an unsealed, folded closure can be as effective as a heat seal. However, materials with a high degree of spring-back that do not crease readily, such as unwaxed cellophane, produce better results with heat-sealed construction throughout, both for seams and the final closure.

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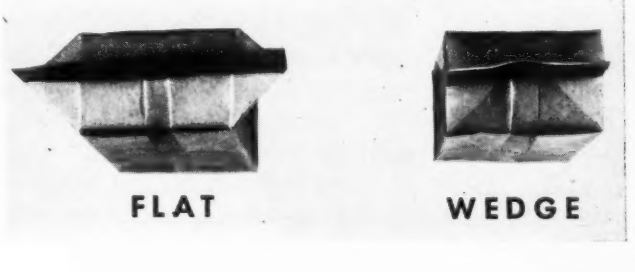
2. TWO CLOSURES TESTED: flat and wedge seals.



Questions and Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Heat sealing PVA-coated film

QUESTION: One of our new products appears to need a very strong, flexible and greaseproof material. We would prefer that this material be heat sealing. So far, the most interesting samples have been a polyvinyl alcohol coated kraft paper. However, we have had variable results in trying to make heat-sealed envelopes. Can polyvinyl alcohol coating be reliably heat sealed?

ANSWER: Your selection of a kraft base paper with a continuous surface film of polyvinyl alcohol is an excellent choice for a strong and greaseproof packaging material. A weight of coating sufficient to give high levels of greaseproofness should also be capable of being sealed by heat if certain conditions are observed. Polyvinyl alcohol is not rated as a thermoplastic resin, but with added water or at high moisture content, it can form strong heat seals. Sealing action is caused by water or moisture acting as a solvent which coheres the surfaces. Sufficient moisture for this action can be carried by the resin if it is well plasticized and is kept from drying out between manufacture and sealing. Also, the surface to be sealed can be dampened on the envelope machine. However, this must be done with caution, or edge blocking can result.

You can also find other resins which are true thermoplastics that are greaseproof to many oils and fats and will seal readily with heat.

Testing for label adhesion

QUESTION: On our latest package we have been using printed thermoplastic-coated paper labels, but we are experiencing some trouble with them. The product is wrapped with acetate film and the coated label is applied to the wrap with heat. We are getting strong seals at the sealer, but in time the seals are easily pulled off and the coating appears to become sticky.

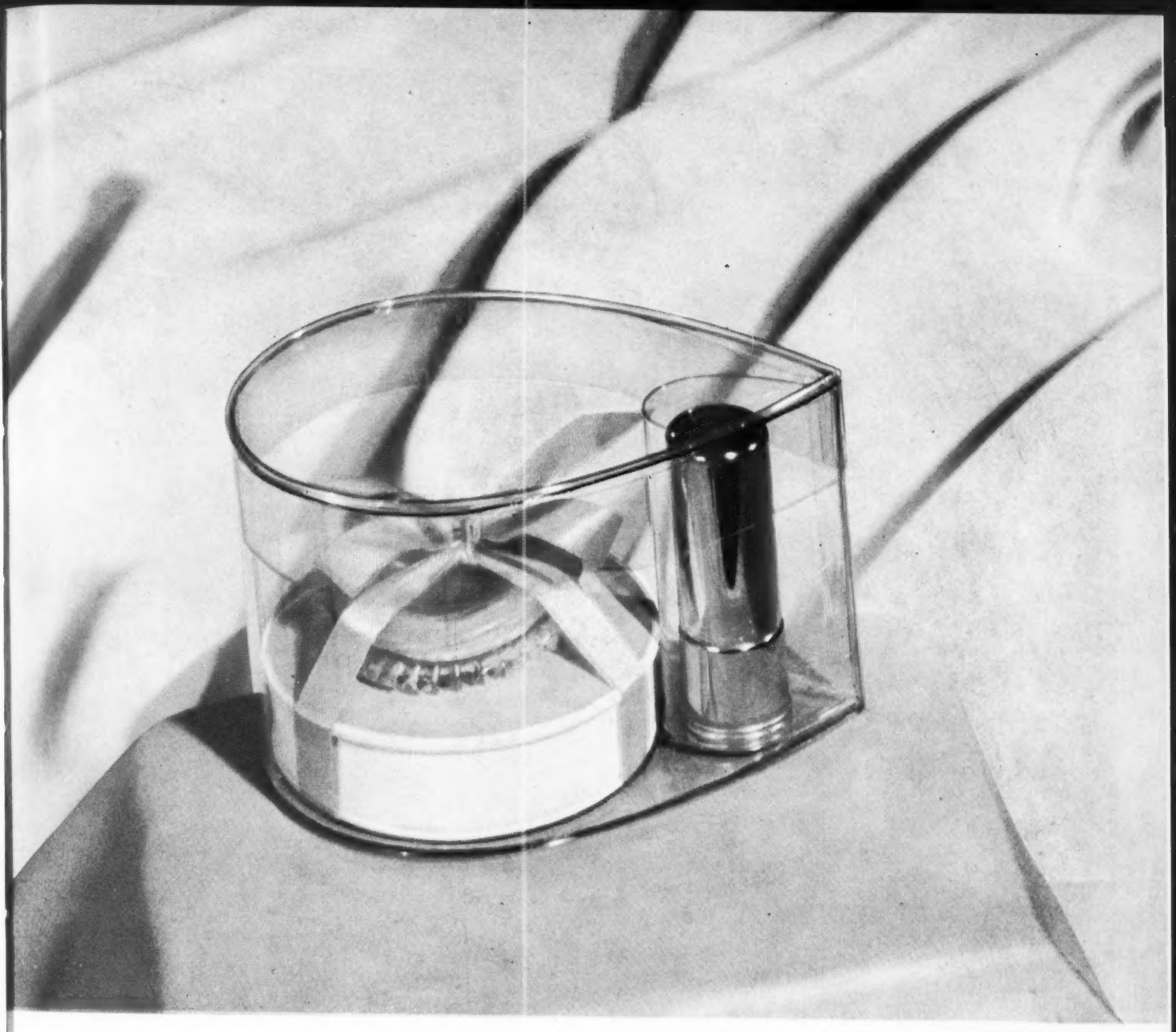
ANSWER: Any heat seal, whether of similar or dissimilar surfaces, should be retested and examined some time after it is made. A sample taken from the sealer will show whether the temperature, pressure, time and other factors are suitable for effecting adhesion of the surfaces. However, many materials or combinations of materials show a change in strength of the seal when they have cooled and have had time to return to their stable condition. Seals should be examined at the sealer, again after having cooled for 4 hrs., then tested again in 24 hrs., one week and, finally, after 30 days. This schedule will prevent any materials from being used or accepted which are incompatible for any reason. The probability is that your trouble is due to migration of the plasticizer from the acetate film into the coating on back of the label. This migration requires considerable time, but the bond becomes increasingly weaker until the label is easily removed.

The answer is to try different types of coating for the back of the label and when one is found that is satisfactory, do not make any changes in specifications or source of supply without a careful evaluation of the time effects on the seal strength.

Shipping fruit in plastic bags

QUESTION: We have been experimenting with the packing of citrus fruit in transparent plastic bags. Our tests showed no fogging or molding when several holes were punched in each end of the bags, but wherever we make a trial shipment we get some bad results. Can you tell us what we are doing wrong?

ANSWER: Your experiments have probably been made with single bags under ambient conditions of temperature and humidity. Under these conditions you will notice a difference in the number and size of the holes in venting excess water vapor from inside the package. However, when you put several bags in a shipping case or crate and pile them into a truck or storage space, then conditions have been changed. First, many of the holes in the bags are covered by fruit or blocked by other bags. Then the mass of bags leaves only the outer layer of fruit in a position to lose moisture. If a tight case is used or if the mass is large, then the amount of moisture which can be lost is small and ineffective and, as a result, molding and fogging occur. Water vapor will only migrate to zones having a lower vapor pressure and will not move through a hole if the air on both sides is saturated. The answer is to punch several more holes in each bag, use spacers between layers, ventilate the boxes, allow spaces between boxes and ventilate the room or truck body. Some of your spoilage also may be due to the absence of oxygen in the center of a mass of fruit packaged as you are doing.



For products that sell on sight...

● Merchandise quickly becomes self-selling in attractive display cases of Kodapak Sheet.

For this amazingly clear and sparkling plastic packaging material shows off all the product's beauty to its best advantage . . . keeps it clean and fresh-looking . . . helps make shopping easier, selection faster.

Kodapak Sheet is made in two basic forms: Kodapak I Sheet, cellulose acetate, in gauges up to 20 thousandths (0.020″). Kodapak II Sheet, cellulose acetate butyrate, in gauges up to No. 200 (0.00200″).

To learn more about this packaging material, the Kodapak Demonstration Laboratory in Rochester is available to demonstrate fabrication possibilities and practical end uses.

Cellulose Products Division
Eastman Kodak Co., Rochester 4, N. Y.

FOR THE DISPLAY YOU WANT . . . THE PROTECTION YOU NEED . . .

Kodapak Sheet

"Kodapak" is a trade-mark

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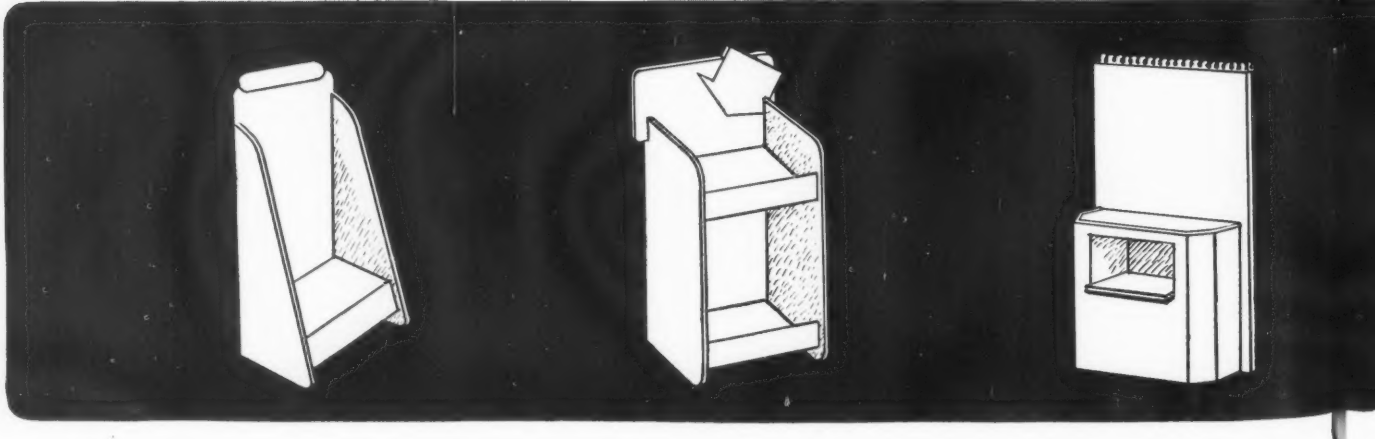
One Call

River Raisin
DIMENSIONAL DISPLAYS

A new and different service by River Raisin . . . as convenient as your telephone . . . a complete organization skilled in the creation and production of promotional and merchandising point of sale counter and window displays . . . from the basic idea to the finished display . . .

One Call for All.



RIVER RAISIN PAPER COMPANY • CORRUGATED AND SOLID FIBRE SHIPPING CONTAINERS

for All

RIVER RAISIN PAPER COMPANY, DISPLAY DIVISION

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• PACKING MATERIALS • FIBRE BOARDS • CORRUGATING STRAW • SILICATE OF SODA

Equipment and Materials

NEW NASHUA TRADE NAMES

Nashua Gummed & Coated Paper Co., Nashua, N. H., announces that "Pervenac" will be the trade name for its delayed-action type of heat-seal label papers formerly known as Thermo-Kote, and "I-Mac" the designation for the direct heat and pressure type.

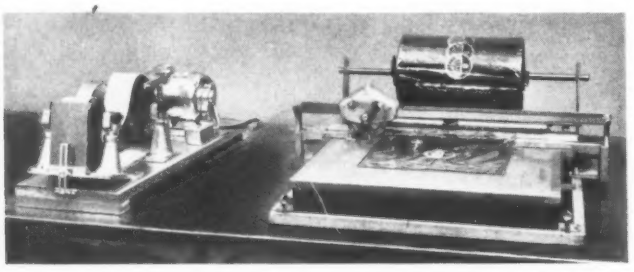
The company also is introducing a "Pervenactor" heat-seal label activator designated for use with the Pervenac papers. Activation is thermostatically controlled by means of a roll heater which directs the heat into the precoated adhesive face of the label. It will handle a label up to 4 in. in width and weighs about 20 lbs. The accompanying photograph shows an operator using a Pervenactor in Westinghouse Electric's Essington, Pa., plant where, it is reported, two operators label up to 1,500 containers per hr., regardless of size, shape or type of container.

TRANSPARENT VINYL FILM

Reynolds Metals Co., Plastics Div., New York, has added to its line a new transparent vinyl film, Reynolon 3000T, in thicknesses of 1.5 and 2 mils. The film is expected to be of interest to food packers as well as to the soft-goods trade. It is said to have good resistance to greases and solvents.

SHELLMAR TO CONTROL MOLDART MACHINE

Machines for the Moldart method of wrapping meat and meat products are now being leased exclusively by Shellmar Products Corp., Mt. Vernon, Ohio. The wrapping machine



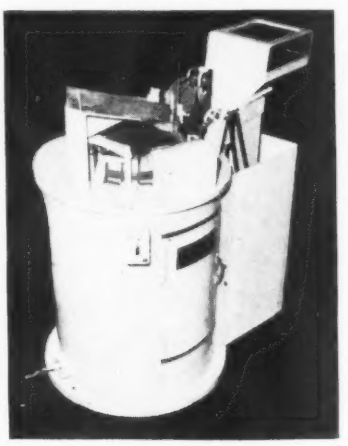
accommodates rolls of printed cellophane, which is drawn off onto a stainless steel wrapping surface and passes between a set of rollers which revolve through a shallow tank of water to apply the necessary amount of moisture to the film. When ready for application, the proper length is indicated and the cellophane is halted by an operator who, by rotary knife, cuts it from the roll. A small brush attached to the cutter knife applies the adhesive and the operator makes a single wrap of the cellophane around the product. The semi-wrapped package is then passed to an operator at the twisting machine. Here it is placed on the belt of the machine, where it is rotated while the operator retains a firm grasp on both free ends of the film. This rotary motion produces the so-called "pig-tail" twist at both ends of the product and a wrap that offers protection as well as eye apeal.

STATIC ELIMINATOR FOR FOLDERS

The Simco Co., Philadelphia, has developed a modification of its static eliminator especially adapted for use on folders. It is now possible for folders with all-steel feed tables—which have resisted attempts to solve their static problem—to have static eliminated from the unfolded sheet just before it enters the first fold. A special Simco bar is built into a plate identical to the plate on the folder, over which the sheet travels just as it enters the first fold. For folders where no plate exists, another special bar-and-plate assembly has been designed to replace one of the rollers of the feed table.

ENVELOPE FILLING AND SEALING MACHINE

A fully automatic machine, specially designed for packaging by count such items as wood screws and nails in envelopes is announced by the Rollins Engine Co., Nashua, N. H. The machine counts the screws, fills them in an envelope or packet, glues and seals the envelope in one continuous line of operation. It is reported the machine will package 20,000 envelopes, containing four screws each, per day. The envelopes are placed in a chute by the operator and are mechanically fed to a rotating turret head. This turret head moves with an intermittent motion, carrying the screws around to the hopper units which deposit the proper number, mechanically, into the envelopes. The turret head moves to the gluing station where the envelope flap is glued. The envelope proceeds to the folding unit, from where it advances between pressure rolls to be sealed. The envelope finally drops out of a chute into a box.



DISPOSABLE STEEL DRUM LINERS

Cincinnati Industries, Inc., Cincinnati, Ohio, makers of X-Crepe, the all-directional stretch material used as liners for various types of containers, have developed a disposable drum liner which tends to alleviate the current steel drum shortage and is said to solve a problem for many shippers of substances in open-head, returnable-type drums. Films such as

Bottle No. 7314 is the ideal hand lotion bottle—
the Empress closure, a decorative finishing touch.

IT PROTECTS AND BEAUTIFIES...

the container that's exactly right for your product!

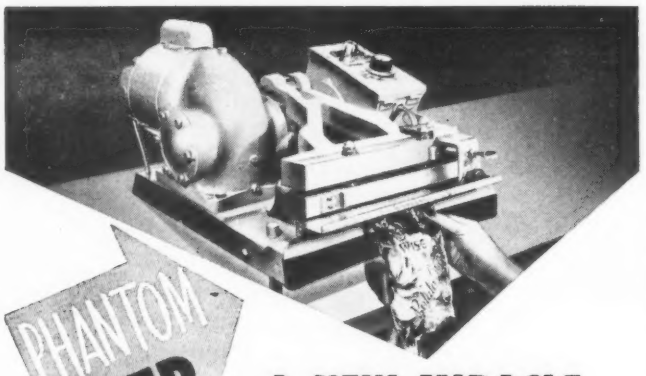
The ideal package combines product protection with sales-attracting beauty and convenience. It's functionally suited to your product in every respect—the right size, the right shape, the right closure, *the right look.*

We suggest you look for this "exactly right" container in the stock Duraglas drug, chemical and toiletry line. There are more than 1400 different bottles for you to choose from...all are reliable protectors, as well as being lustrous backgrounds for a distinctive label.

After you've selected the container that fills your needs, choose an O-I closure, either plastic or metal—in businesslike black or brown, or a dressy pastel. It will complete a package that protects, beautifies *and sells* your product.

Duraglas TRADE MARK REG. U. S. PAT. OFF. CONTAINERS—Protectors of Quality

OWENS-ILLINOIS GLASS COMPANY, TOLEDO 1, OHIO Branches in Principal Cities



PHANTOM FEED

A NEW MIRACLE IN HEAT-SEALING

No foot control required to operate this heavy-duty, all-purpose bag heat sealer. The automatic, feather-light touch of the fingers as they place the bag in position does the trick! Like magic, the machine then folds the top of the bag and heat seals it in one swift, sure operation. Speeds up production by as much as 50%. This "Pacer" model is also available with the following exclusive features: Hole Punch, E-Z Open Seal, Date Coding, and Name Embossing attachment.

Automatic and Foot Power Heat Sealers; Rotary Heat Sealers; Hand Sealing Irons; Bag Making Machines and Hot Plates

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Milligrams Grams — Ounces

With this Model A PAK KING filler you meter the above volumes accurately and at high speed. Spices, coffees, teas, grated cheese, cocoas, drug powders, insecticides and chemicals. In semi or full automatic dust free designs up to 120 per minute or more. Loose, settling or ram pressure fill. Tandem fillers for high speed or extra settling features as required for powdered sugar cartons.

Ask for catalog No. 48 or bulletin No. 481 and 482.

WEIGH RIGHT Packaging Machinery

WEIGH RIGHT AUTOMATIC SCALE COMPANY

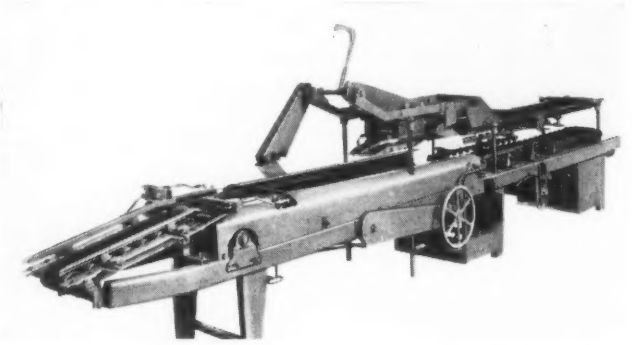
JOLIET • ILLINOIS • U. S. A.

Equipment and Materials
(Continued)

Pliofilm or polyethylene, which are neutral to the substance the drum is to contain, are used in conjunction with X-Crepe, which provides support for the film and permits easy handling. The liner thus formed is said to be completely flexible and formable in the same degree as the film. The company has developed a patented method of inserting these drum liners which is supplied to users as a free service.

STREAMLINED CASE SEALER

Elliott Mfg. Co., Fresno, Calif., offers a single-action, end-sealing, automatic case sealer with an all-metal housing and



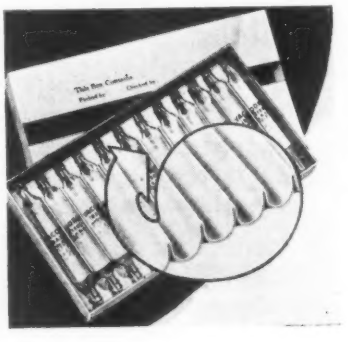
lower elevator. A single adjustment sets all overhead steps in the mechanism, which applies compression and moves sealed cases to the end of the drying line simultaneously.

DISK-WRAPPING MACHINE

Wrapping Machine Service & Tool Co., West Springfield, Mass., announces it is now producing a machine which will wrap from 60 to 150 disk-type products per minute. It will use heat-sealing roll stock such as cellophane, wax paper, foil or non-heat-sealing types in conjunction with thermoplastic labels.

FLUTED PROTECTORS

Pre-formed separation supports made of paperboard and named Quick-Pak Protectors are being marketed by Cardboard Service Co., Forest Park, Ill. By using these fluted or ribbed inserts instead of dividers, partitions or pieces in the assembly of boxes and cartons, it is said that ordinary paperboard containers can be converted into satisfactory containers for packing and shipping ampoules, fountain pens, perfume vials, paint tubes, etc. The supports are glued in.



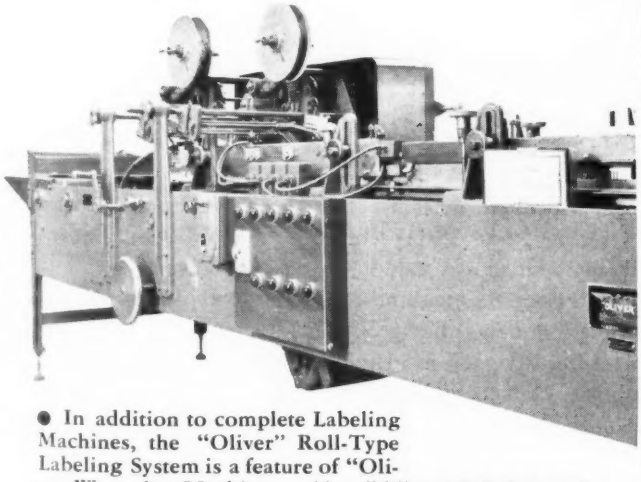
PRINTING INKS FOR POLYETHYLENE

Heribert, Inc., New York, announces the availability of Heribol inks, especially formulated for single, two-color and multi-color printing on polyethylene. The manufacturer claims that these inks will make a permanent, rub-proof print

"OLIVER" Label-Seals the new Hershey Carton

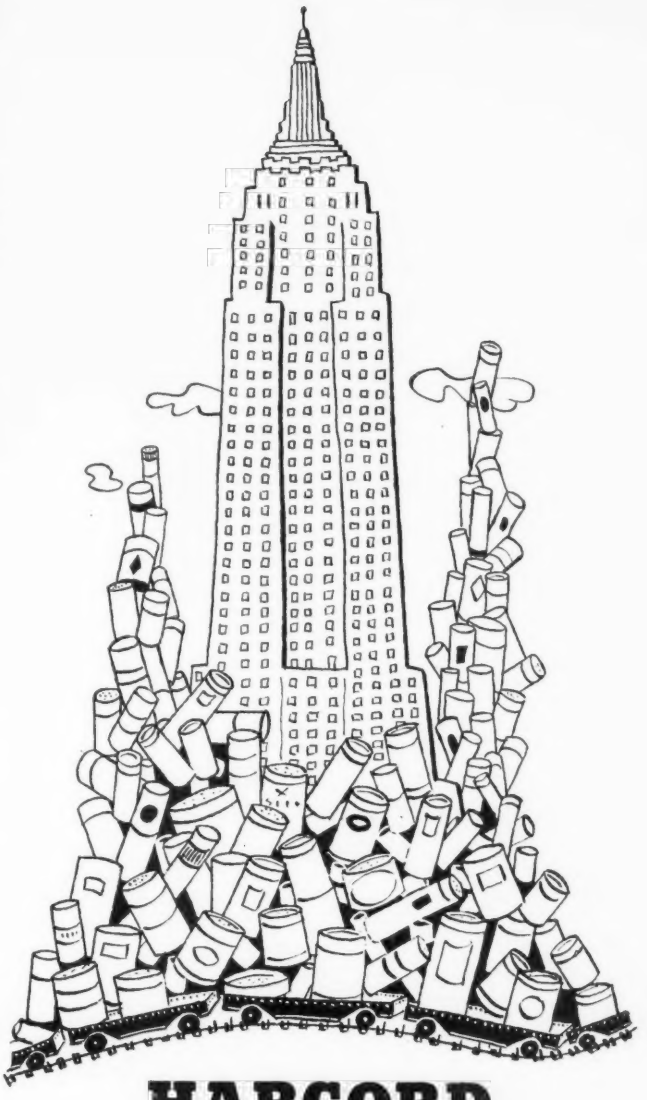
for greater convenience at less cost

● The new Hershey Chocolate Bar carton is the printed full telescope type. A specially designed "Oliver" Labeling machine compresses the packed carton in two directions and applies two roll-type thermoplastic labels (printed by Oliver), securely sealing the cover to the bottom. Machine is adjustable to handle cartons in various sizes. The finished package prevents pilferage; and, of equal importance, is much more convenient for the dealer to open. This is one more case where "Oliver" engineers came up with the right answer.



● In addition to complete Labeling Machines, the "Oliver" Roll-Type Labeling System is a feature of "Oliver Wrapping Machines. Also, "Oliver" Labelers and Imprinters can be attached to most wrapping machines. Or, our engineers will design and build a machine to meet your special needs. Write for details.

OLIVER MACHINERY COMPANY
GRAND RAPIDS 2, MICHIGAN



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whenever you need it!

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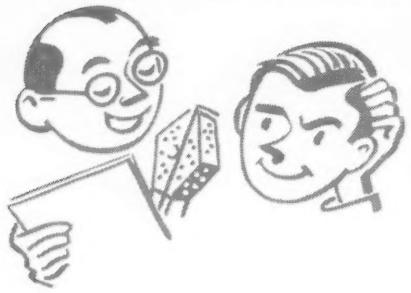
QUESTION:



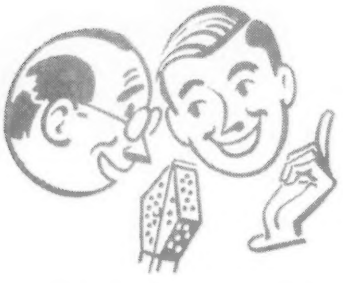
What makes self-dispensing cartons like these possible?

Foods now packaged on this type machine:

- CEREALS
- POWDERED SUGAR
- CORN STARCH
- CANDY MIX
- DESSERT POWDER
- TEA
- PRUNES
- BROWN SUGAR
- DRIED FRUIT
- PREPARED FLOUR

Photograph at right shows installation of Double Package Maker equipment in Kellogg's famous plant at Battle Creek, Michigan.

ANSWER:



Pneumatic's Double Package Maker machine!

Packaging men describe it as "a package within a package". Any way you look at it, packaging took a huge stride forward when Pneumatic developed the machine to make it.

Simply stated, Pneumatic's Double Package Maker shapes a protective paper lining, then forms an outer carton around it to produce a hand-in-glove fit. The result is an exceptionally tight container that permits maximum fill. One machine, one operation – but double protection for the product! Out of this idea, Kellogg developed its ingenious Kel-Bowl-Pac that opens to form a receptacle from which, with cream added, the cereal can be eaten!

Kellogg, like many famous companies selling many different kinds of products, in packages large and small, uses Pneumatic machines of various types. Pneumatic builds more than ninety different packaging and bottling machines designed to help industry do a better packaging job at a "lower cost per container".

* * *

PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Avenue, North Quincy 71, Mass. Branch Offices in New York, New York; San Francisco, California; Chicago, Illinois; Los Angeles, California; Seattle, Washington.

PNEUMATIC
LOWER COST PER CONTAINER

PACKAGING AND BOTTLING MACHINERY

Over ninety different machines for the packaging of dry, free-flowing products and the cleaning, filling, capping and labeling of containers for liquids and semi-liquids

Equipment and Materials
(Continued)

on polyethylene film such as is used for wraps and bags. They are applied by roller or screen print. Inks are adjusted with a special Heribert thinner and retarder according to the thickness and other characteristics of the film. Their use requires the replacement of rubber parts on the printing equipment with polyvinyl alcohol, as the inks are destructive to rubber. Red, blue, white, yellow and green colors are in stock for immediate delivery. Samples of polyethylene films printed with these inks are available from Heribert, Inc., 3501 Riverdale Ave., New York.

PAPER SHREDDING MACHINES

Lee & Henry Mfg. Co., San Francisco, is offering its ShredOmatic paper shredding machine which cuts long, curly shreds of paper $^{3}/_{16}$ in. wide, as fast as an operator can feed the machine.

The ShredOmatic Five is said to shred 32 thicknesses of newspaper (1 lb.) at one feeding, producing up to 150 lbs. per min. The ShredOmatic Three will shred 16 thicknesses, or $^{1}/_{2}$ lb., of newspaper at one feeding and produces up to 75 lbs. per minute.

AUTOMATIC COUNTER AND STACKER

Superior Punch Press Co., Cleveland, Ohio, offers a machine for handling flat products that require stacking and counting as they come off the production line. This machine will count objects at a speed up to 200 pieces per minute, stack them in piles and transfer the counted stack to the conveyor system. It will handle pieces from 9 to 82 in. wide and will transfer the counted stack in $^{1}/_{3}$ of a second, it is claimed.

EMBOSSED STOCK GLASSINE

A new embossed glassine exclusively for confectioners has been introduced by the Packaging Div., E. W. Twitchell, Inc., Philadelphia. This specially treated greaseproof glassine is available from stock in two different weights. Samples may be obtained by writing the company.

ELECTRONIC COUNTER AND PRECISION SORTER

U. S. Engineering Co., New York, has a new electronic counting machine called "Count-O-Matic," said to count 100,000 to 350,000 parts per hour. The machine will handle a wide variety of products such as pills, capsules, beans, buttons, candies, machine parts, screws, nuts, disks, etc., and is reported to have unlimited range and extreme accuracy. Units can be supplied in which containers to be filled are

The MASON MAILMASTER...

..for Postal Shipments

No Wrapping – No Tying, 65 sizes – 1,000,000 boxes in stock for immediate delivery. —Send for Catalogue.

THE Mason BOX COMPANY

MAIN OFFICE
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FACTORIES: ATTLEBORO FALLS AND TAUNTON, MASS.

MANUFACTURERS OF A COMPLETE LINE OF SET-UP BOXES

WAXES

For paper board impregnation

ZOPHAR MILLS 102 YEARS

FOR DIP COATINGS
EMULSIFIED WAXES
COATING WAXES

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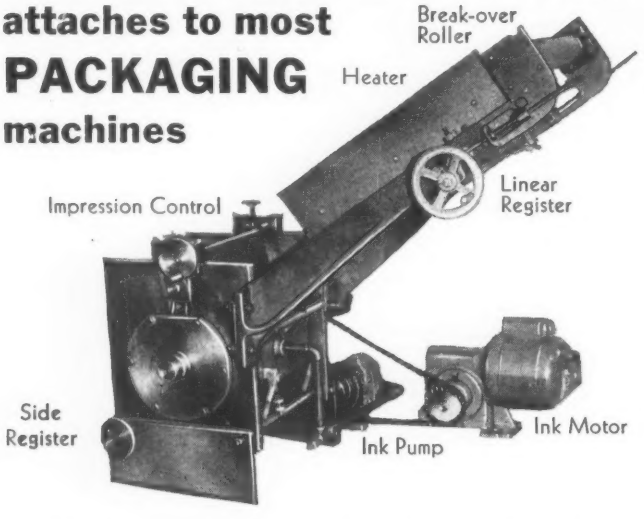
Meet Army and Navy specifications
WAXES FOR FUNGUS PROOFING
Our laboratory will welcome your problems

•

Zophar Mills, Inc. has been known for its dependable service and uniformity of product since 1846.

ZOPHAR MILLS, Inc.
Established 1846
106-26th Street • Brooklyn 32, New York

miniature
ROTOGRAVURE PRINTER
attaches to most
PACKAGING
machines



Here's a complete rotogravure printer which is small enough to be introduced into the web system of most bag making, candy, cigarette and food wrapping machines. It prints on all kinds of papers and foils up to 10" in width. Because of its miniature size, the price of this smooth operating unit is surprisingly low.

Write for literature and specifications today.

FRANCIS C. KILB CO.
243 Fulton Avenue Hempstead, L. I., N. Y.

Cans of Distinction

HERE are "customer-catching" cans—designed and made *exclusively* for your product. These lithographed containers combine easy brand identification with ideal product protection.

We also manufacture a complete line of round cans with stock designs for candies cakes and cookies.

Write today for our illustrated catalog.

"No other container protects like the can"

Empire Can Corp.

220 Ashford St. Brooklyn 7, N. Y. APplegate 7-4701

Equipment and Materials
(Continued)

hand fed or automatically loaded with a conveyor. The company also announces the availability of a machine which will sort to size, plus or minus 0.0003 in., such items as machine parts, dowels, balls, molded plastics, candies, buttons, pins, etc.

CALIPER FOR SHEET MATERIALS

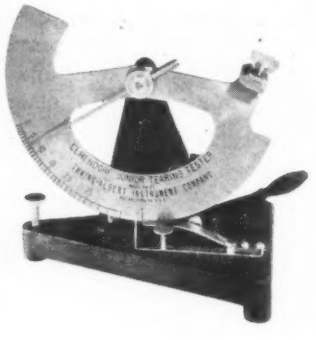
E. J. Cady & Co., Chicago, is offering a new Exact Micrometer caliper for measuring thicknesses of sheet materials or other articles up to $\frac{1}{2}$ in. The dead-weight principle employs devices to maintain uniform measuring pressure at all times, at any point of anvil travel, whether the article measured is thick or thin. The pressure per sq. in. meets ASTM and TAPPI standards.

NEW EASTMAN PLASTIC SHEET

Eastman Kodak Co., Rochester, N. Y., announces a new extruded Kodapak sheet and several new types of laminated Kodapak I sheet. The extruded sheet comes in a limited variety of gauges and in such standard colors as clear, white, ivory, red and blue, with present production proceeding principally in 15-, 20- and 25-thousandths gauges. The laminated sheet, Kodapak I, clear transparent, will be available in gauges from 30 to 60 thousandths.

LIGHT-WEIGHT TEAR TESTER

An Elmendorf Junior Tearing Tester, similar to the Standard Elmendorf, but on a smaller scale, is being offered by the Thwing-Albert Instrument Co., Philadelphia.



Its total capacity is 200 grams, making it ideal for light-weight papers, tissues, plastic films and materials too light for testing on the standard instrument.

Though its capacity is one-eighth that of the Standard, its principle of operation is the same.

IMPROVED TAPE DISPENSERS

For greater flexibility in gummed-tape moistening, an improved pressure plate with a range of five settings has just been introduced in the entire line of Counterboy tape dispensers now being sold by Better Packages, Inc., Shelton, Conn. The company also announces a new pressure-sensitive tape dispenser, Big Inch No. 3, that automatically feeds measured strips $1\frac{1}{2}$, $2\frac{1}{2}$ or 3 in. long.

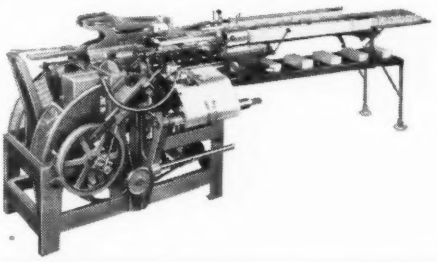
EASY WRAPPING FAST WRAPPING.....

for Your Cartons

It Pays to Wrap the Hayssen Way

You can rely on the Hayssen Carton Wrapping Machine to give you steady, dependable, speedy wrapping service. Whether your product calls for the later types of wrapping material or the old stand-bys, you'll find a Hayssen model to do the job. If your overwrap is printed, the Hayssen Electric Eye accurately spots the design on the carton and, of course, uses economical wrapping material in rolls. In back of every Hayssen is more than 35 years' experience in building wrapping machines, with constant improvements to meet the changes of better packaging. If you are ready to replace worn-out wrapping equipment, investigate the Hayssen. An outline of your needs will bring specific recommendations. Write to the factory.

HAYSSEN MFG. COMPANY SHEBOYGAN, WIS.



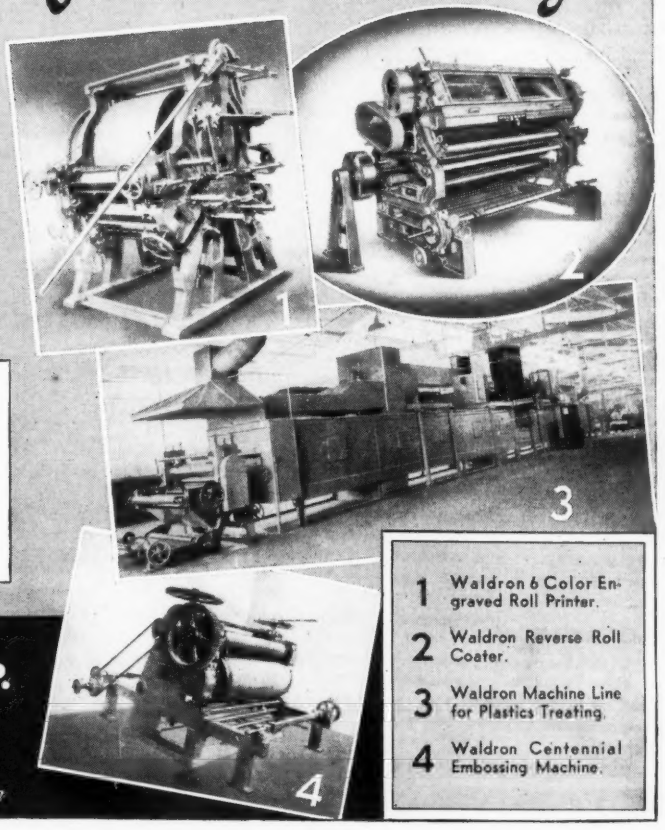
Hayssen
ELECTRIC EYE WRAPPING MACHINES

Part of the Picture of Famous Packages

WALDRON MACHINES

For every step in your material processing, from raw stock to finished product, WALDRON can supply the right machine. The more beautiful and durable packaging materials are processed on WALDRON machines.

- ANILINE PRINTING MACHINES
- ROTARY PRINTING MACHINES
- COATING MACHINES
- CREPEING MACHINES
- EMBOSSING MACHINES
- GUMMING MACHINES
- LAMINATING MACHINES
- PAPER ROLLS (EMBOSSING)
- SATURATING MACHINES
- SLITTING MACHINES
- WAXING MACHINES
- WINDING MACHINES
- SPECIALLY DESIGNED MACHINES



1 Waldron 6 Color Engraved Roll Printer.
2 Waldron Reverse Roll Coater.
3 Waldron Machine Line for Plastics Treating.
4 Waldron Centennial Embossing Machine.

JOHN WALDRON CORP.
NEW BRUNSWICK, NEW JERSEY
BUILDERS OF QUALITY MACHINES SINCE 1827

Plants and People

The American Paper Goods Co. has appointed **James F. Quick** as director of sales for the Flexible Packaging Division. Mr. Quick will go to the company's general sales office in New York from the branch sales office in Charlotte, N. C., which he opened in 1946.

J. F. Quick

Arthur J. Campbell has been appointed manager of the Industrial Chemicals Division of **American Cyanamid Co.** This division produces and sells synthetic organic chemical, paper chemicals and plasticizers.

Carr-Lowrey Glass Co.'s New York office has been consolidated with that of **Anchor Hocking Glass Corp.** at 40 W. 40th St. New Carr-Lowrey telephone number is Longacre 5-3204. The company is a subsidiary of Anchor Hocking.

R. L. Beach, recently retired from **General Electric Co.,** has been awarded an honorary life-time membership in the **Industrial Packaging Engineers Assn.** Mr. Beach is best known for his development of the G. E. "puncture tester," a machine for measuring the strength of fibreboard for shipping containers. Until he retired, Mr. Beach was supervisor of packing for G. E.'s Apparatus Division.

The Dixie Cup Co. held a "family day" open house at their new plant in Fort Smith, Ark., recently. Guests saw the various steps in the manufacture of Dixie Cups during tours through the plant and were officially welcomed by **Cecil F. Dawson,** president of the company.

Executives of the **Multiwall Bag Division** of **St. Regis Sales Corp.,** subsidiary of **St. Regis Paper Co.,** discussed the return of normal competitive conditions and how they should be met at the first annual sales meeting of that division recently. Sales personnel from all sections of the country met at the Waldorf-Astoria in New York for the two-day meeting. **Arch Carswell,** general sales manager of the division, conducted the meeting.

William J. Alford, III, has been named executive vice president of **Alford Cartons,** Ridgefield, N. J., manufacturers of folding cartons. Two other appointments have also been announced by the company: **Ray D. Watkins** as vice president in charge of research and development and **Fred De Maria,** manufacturing manager. Mr. De Maria was formerly with the Ohio Boxboard Co. Alford Cartons is a subsidiary of the Continental Paper Co.

W. J. Alford III

International Paper Co. announces the opening of a sales branch in San Francisco for the Bagpak Division. **W. A. Scholl** has been named district sales manager.

John B. Osborn has been appointed vice president and general sales manager of **Forbes Lithograph Mfg. Co.,** Boston, following the retirement of **Ralph W. Thomas.**

The National Research Corp., Cambridge, Mass. announces two changes in the staff: **Robert A. Stauffer** has been appointed assistant director of research and **James H. Moore** has been made director of the metals department.

James O. Rice has been elected secretary of **American Management Assn.** He was formerly assistant secretary and editor, and succeeds **Henry J. Howlett,** who resigned to become president of **Container Laboratories, Inc.**

Osborn Bezanson and **R. R. Cole,** vice presidents of **Monsanto Chemical Co.,** have been appointed to the company's executive committee. Mr. Benzanson was formerly general manager of the Organic Chemicals Division. He will be succeeded by **W. G. Krummrich.** Mr. Cole will be replaced by **John Cristian** as acting general manager of the Phosphate Division. The company also has announced that **Francis J. Curtis,** vice president and secretary of the executive committee, has been named sales coordinator. **Dr. Carroll A. Hochwalt,** in charge of the company's Central Research Department, assumes responsibility for the coordination of all research and development activities and **Howard K. Nason** becomes acting director of the Central Research Department.

Sales offices of the container, closure and tableware divisions of **Anchor Hocking Glass Co.** in St. Louis have been moved to the Paul Brown Bldg., 818 Olive St. Telephone numbers remain the same.

William F. McCabe and **Donald H. Gilson** have joined Sylvania Division of **American Viscose Corp.** as salesmen attached to the New York office.

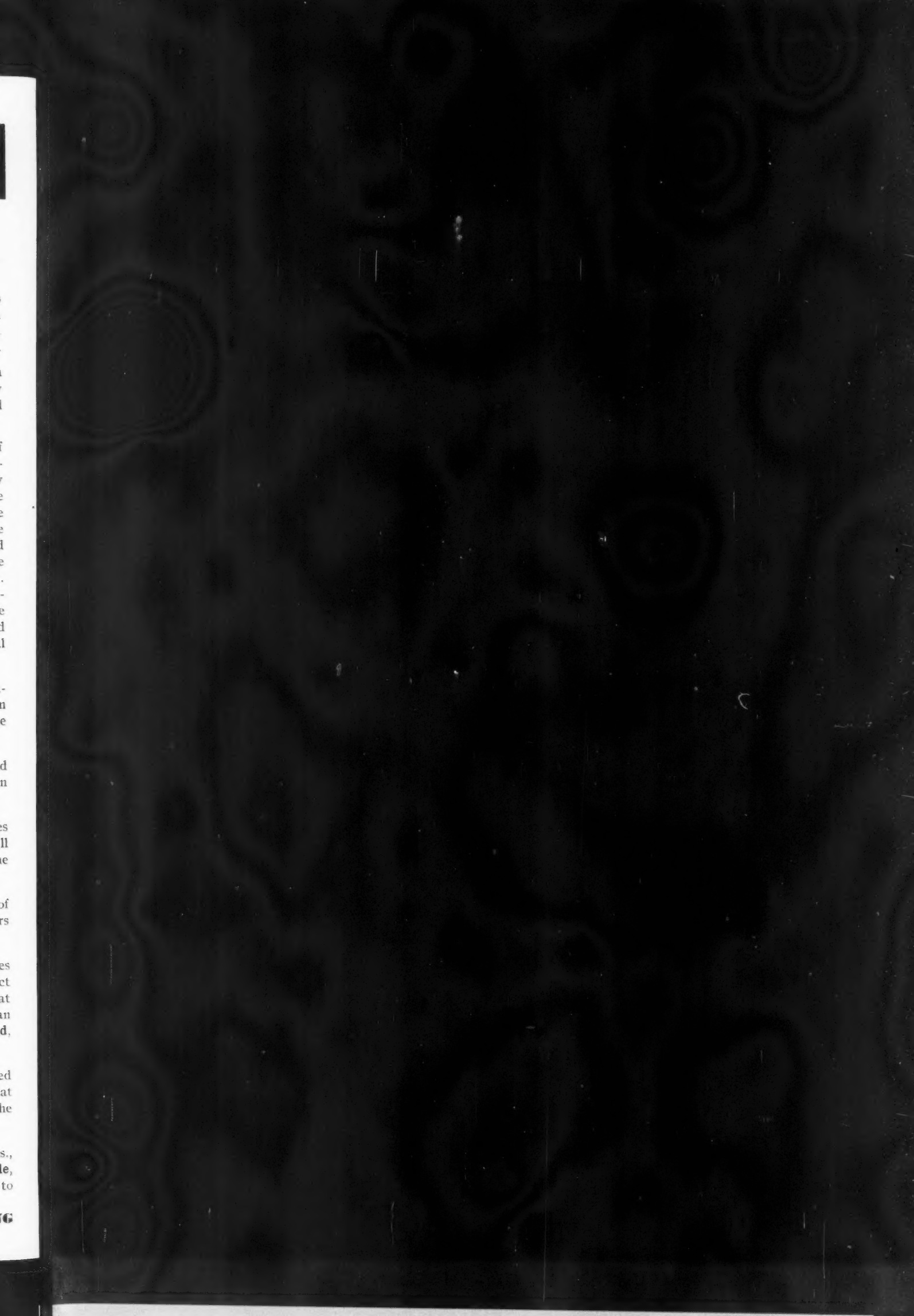
A. J. Link has been appointed Chicago district sales manager of **Signode Steel Strapping Co.** Mr. Link will direct sales in Minnesota and Wisconsin as well as the Chicago area.

H. Robert Miller has been appointed assistant director of sales of the **White Metal Mfg. Co.,** Hoboken, N. J., makers of collapsible metal tubes and can spouts.

L. P. Littell, former manager of the Salt Lake City sales office of **Bemis Bro. Bag Co.,** has relinquished his direct selling responsibilities after nearly thirty years in that post. Mr. Littell, who will remain with the company in an advisory capacity, is succeeded by **Robert J. McDonald,** formerly in the Denver sales office.

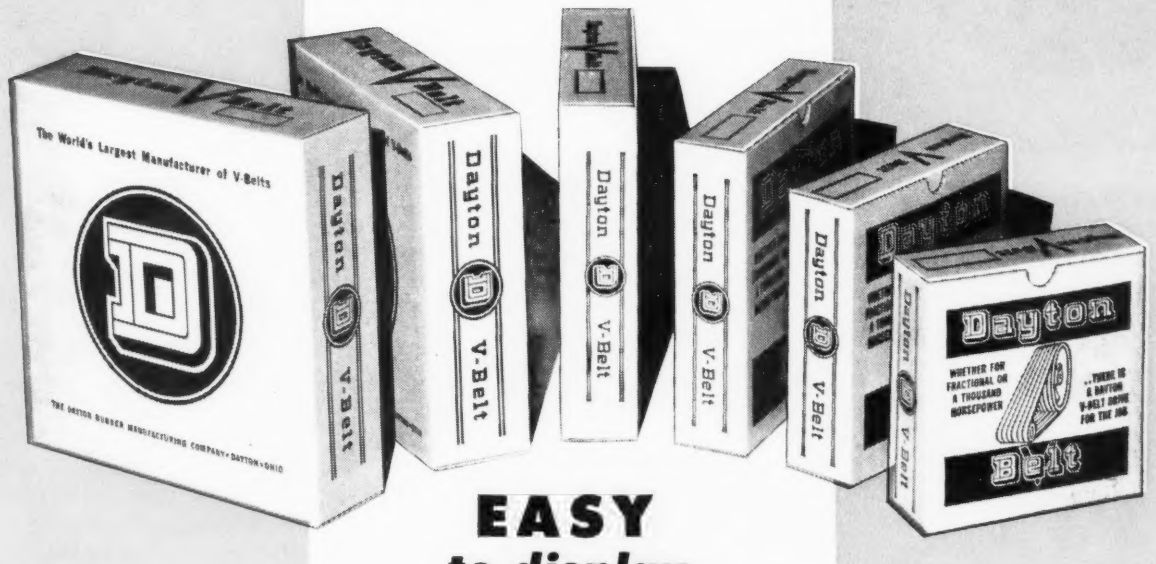
Dr. Roy F. Layton has joined the staff of the Applied Physics Laboratory of **Johns Hopkins University** at Silver Spring, Md. Dr. Layton was formerly with the Lusteroid Container Co.

The Package Machinery Co., East Longmeadow, Mass., announces several personnel changes. **Harold Mosedale,** formerly in the New York office, has been transferred to



H&D BOXES

DEVELOPED
as a family group



EASY
to display

These corrugated packages reduce distribution costs, increase dealer good will, influence customer acceptance. They protect the merchandise in transit, are easy to pack, simplify inventory, save space, display well, facilitate identification and selection, lend themselves to successful merchandising, effectively promote the manufacturer's name. Yes, such a package definitely makes a good product better. Consult the H & D Package Laboratory on ALL packaging problems.

HINDE & DAUCH

Authority on Packaging

EXECUTIVE OFFICES: 4806 DECATUR ST. • SANDUSKY, OHIO

FACTORIES IN:

BALTIMORE 13, MD. • BUFFALO 6, N. Y. • CHICAGO 32, ILLINOIS
CLEVELAND 2, OHIO • DETROIT 27, MICH. • GLOUCESTER, N. J.
HOBOKEN, N. J. • KANSAS CITY 19, KANSAS • LENOIR, N. C.
MONTREAL, QUEBEC • RICHMOND 12, VA. • ST. LOUIS 15, MO.
SANDUSKY, OHIO • TORONTO, ONTARIO • WATERTOWN, MASS.

Plants and People
(Continued)

the home office at East Longmeadow; **Ernest A. Hjelm** of the Chicago office replaces Mr. Mosedale in New York. **C. Robert Strehlau** has been moved from the Cleveland office to Chicago to replace Mr. Hjelm, while **Robert S. Lyons** goes from Cleveland to Chicago. **William H. Kiel** has been transferred from East Longmeadow to the New York office to replace Mr. Lyons.

Benjamin H. Heim and **Joseph W. Scott** have been elected vice presidents of **Cellu-Craft Products Corp.,** Flushing, N. Y., converters of flexible packaging material. Mr. Scott had been sales manager of the company. Mr. Heim was formerly assistant New York sales manager of E. I. du Pont de Nemours & Co., Inc.


B. H. Heim

John W. Power has been appointed assistant to the president of **International Printing Ink,** New York. **William S. Law** succeeds Mr. Power as Cambridge branch manager. Starting in the industry over 50 years ago as a pressman, Mr. Power has been manager of the Cambridge branch for 31 years. His new duties will be national in scope, particularly in the package printing field. Mr. Law has been Mr. Power's assistant for the past 10 years.

IPI has also announced the completion of its new buildings at Germantown Ave. and New Market St. to house the Philadelphia branch office and service station. The building, located just across the street from IPI's old site, contains over four times the space of the old building.

A series of one-week conferences on the technical and scientific aspects of container manufacture is being conducted in the Chicago area by **The American Can Co.,** New York. Some 200 delegates from the company's 40 sales offices throughout this country and Canada are taking part in the brush-up courses. Delegates will make on-the-spot studies at key facilities operated by the company in and around Chicago, visiting the company's laboratories and research center.

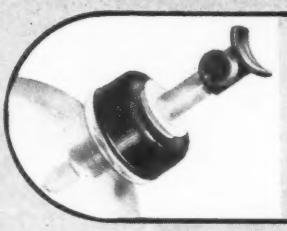
Wallis E. Gallagher has resigned as general sales manager of **The American Paper Goods Co.,** New York. Mr. Gallagher has been with the company since 1944. His resignation follows within a few days that of **Edward S. Lancaster,** former president of the company.

Crosby M. Kelly has been named director of advertising and sales promotion at the **Rapids-Standard Co.,** Grand Rapids, Mich., makers of materials handling equipment. Mr. Crosby was formerly director of the Ford Motor Co. Merchandising School.

Burnard C. York has been appointed representative in Illinois, Wisconsin and Minnesota for **The Karl Kiefer Machine Co.,** Cincinnati, Ohio, manufacturers of bottling and packaging equipment.

Hampden Glazed Paper & Card Co., Inc., Holyoke, Mass. has opened a midwestern office in Columbus, Ohio. **Ralph C. Burges** will be in charge of the new office. He will be succeeded as production manager by **Frank N. Fowler. J. Donald Jenkins** has been named sales representative for

AGAIN from CALMAR... 2 new liquid dispensers

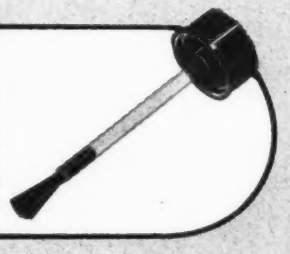


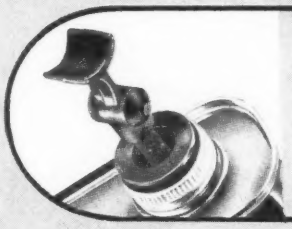
SPRAYER*

Low cost is feature of this non-corrosive, colorful, all-plastic sprayer. Possesses high visual appeal, strong re-use value. For use with practically any sprayable or dispensable liquid product: glass cleaner, disinfectant, deodorant, medicament, cosmetic, liquid food or flavor. Available with 22, 24, 28, 30, 33 mm. metal or molded plastic caps for bottles and cans.

BRUSH APPLICATOR

Perfect for applying nail polish, plastic cement, plastic dyes, adhesives, paints, lacquers and countless other products. Glass rod eliminates corrosion. Hair permanently secured — will not come out. New, inexpensive.





INSECTICIDE AND DEODORANT SPRAYER

For home, hospital and industrial use, where large volume of fine mist is desirable. All plastic, non-corrosive. Made to fit any size bottle or can. New, efficient, durable, inexpensive.

Your inquiry will draw prompt and detailed information about these and other new sales stimulants for your liquid products.

*Reg. U.S. Pat. Off.

Calmar Company

DESIGNERS and MANUFACTURERS
OF FUNCTIONAL CLOSURES FOR THE PACKAGING INDUSTRY

6800 McKINLEY AVENUE, LOS ANGELES 1, CALIFORNIA

A-B-C AUTOMATIC TOP AND BOTTOM CASE SEALERS

TAKE THE "HAND" out of HANDLING

Expensive sealing operations are done faster, more economically with the streamlined A-B-C Top and Bottom Case Sealer. A recent installation in one plant saved $4000 the first year. Cases are sealed directly from the production line at speeds up to 60 cases per minute. It's all automatic. No operators required. Top inner flaps are tucked as bottom outer flaps are opened without disturbing contents of case. Glue is applied both top and bottom and outer flaps folded in place simultaneously. Compression unit with individual spring rollers applies even pressure to complete the sealing job. Unit can seal top flaps only or bottom flaps only. A-B-C specializes in building packaging machinery exclusively. Let an A-B-C specialist help solve your packaging problems. Write A-B-C PACKAGING MACHINE CORP., Dept. M5, Moberly, Mo.

CHECK THESE A-B-C FEATURES

- Built in power permits finger tip control
- Simple, sturdy construction for minimum down time . . . low maintenance cost
- Adjustable to wide range of case sizes by pressing a button
- Glue applicator and compression unit supported at 4 points for even pressure
- All main drives ball bearing equipped—geared head motors

A-B-C

PACKAGING MACHINE CORP.

MOBERLY, MISSOURI

OTHER A-B-C PRODUCTS

Automatic Top Sealer • Automatic Side Sealer • Semi-Automatic Bottom Sealer Hand Gluer • Glass Container Case Packer

CAMBRIDGE PAPER BOX CO.
196 BROADWAY
CAMBRIDGE 39, MASS.
NEW YORK CITY PROVIDENCE, R. I.

PACKAGING
ANALYSIS DESIGN
PRODUCTION
"SET UP", ROUND, FOLDING BOXES
DISPLAYS
LABELS
FOIL STAMPING
DIE CUTTING
PLASTICS
ALLIED PRODUCTS

New Micrometer
For Thickness Measurement of Packaging Materials
BOARDS • PAPERS • PLASTICS • GLASS • FELT • METAL
CADY EXACT — DEAD WEIGHT — 100% ACCURATE

6" diameter dial
•
Calipers Thicknesses of materials up to ½"
•
Graduations: Thousandths or Half Thousandths of an inch
•
Built like a watch — Cast Housing — 4" throat
•
Meets ASTM and TAPPI Standards

This New Cady Precision Micrometer incorporates the dead weight principle to meet the requirements of users who must have complete accuracy over the full ½" range of anvil travel.

REG U S A
Micrometers
Paper Scales
Burst Strength Testers

Write for specific information and price of model DW.

E. J. CADY & COMPANY
Manufacturers—Since 1895 134 N. LaSalle St., Chicago 2, Illinois

Plants and People
(Continued)

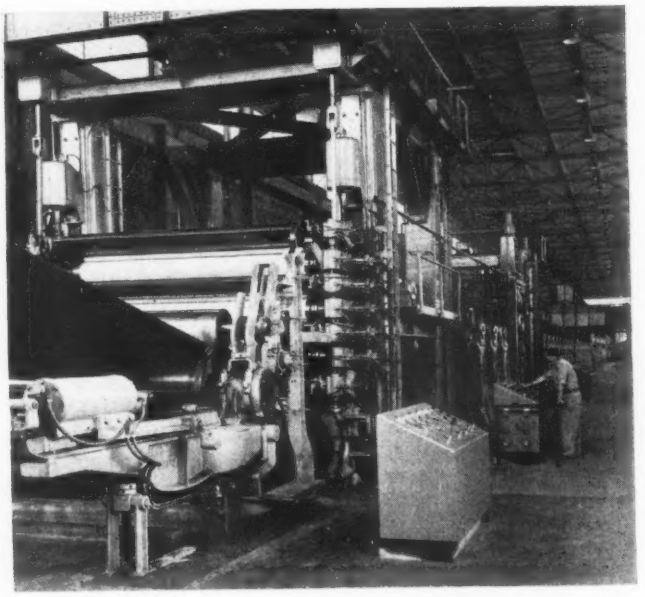
the State of New York. For the past three years, Mr. Jenkins has been associated with the Bulkley-Dunton organization, in their specialty paper division.

Lily Cups Limited is the new name of Universal Paper Products Co. (Canada) Ltd. of Toronto. The company is a subsidiary of **Lily-Tulip Cup Corp.** and plans to produce the same line of products as the parent company.

Alvin E. Dodd has been appointed managing director of the **U. S. Associates, International Chamber of Commerce, Inc.,** New York. Mr. Dodd recently retired as president of the American Management Assn. He now holds the title of honorary president in AMA.

Announcement has been made by the **Michigan Carton Co.,** Battle Creek, Mich. of the installation and placing in operation of a new paperboard machine in the company's

new Angel St. mill. Measuring 550 ft. in length from the wet end to the layboy, "The Angel"—the name given the new machine—produces a trimmed sheet 128 in. wide and carries approximately one-half mile of paperboard from



end to end. Initial production at the new mill began last June; the new unit in which the machine is located was finished this summer. Production of paperboard will be increased 100 and 150% by the new mill facilities, according to company officials.

The machine is located on the second floor level. Three inclined conveyors transport waste paper and wood pulp

Blue

STOPS *the* EYE...

STARTS *the* SALE

Introduce your new products or repackage your old ones in rich, royal, eye-stopping Maryland Blue Glass, and your container will help advertise, merchandise and sell your product.

BLUE *makes your product easier to see.*
BLUE *makes your product easier to remember.*
BLUE *makes your product smartly modern.*
BLUE *insures rich, distinctive appearance.*
BLUE *stands out, assures better display.*
BLUE *advertises your product in stores & homes.*
BLUE *builds profits, steps up repeat sales.*

Let us send you samples of appropriate stock designs. Or, let our design experts work with you in creating a bottle or jar for your exclusive use. Write today to Maryland Glass Corporation, Baltimore 30, Md.

PACK TO ATTRACT IN

Maryland Blue

Also available in Crystal Clear Glass

FOR CELLOPHANE, GLASSINE, ACETATE, FOIL, PAPER

Our popular eight page pamphlet "Rotogravure Printing" has recently been re-issued. Technical and production men will want a copy which will be sent free on request.

GOTHAM INK & COLOR CO.

Established in 1937

5-19 47th Avenue, Long Island City 1, N. Y.

IRonsides 6-3120

CORRUGATED PAPER PRODUCTS

SHIPPING CONTAINERS

BOX BOARDS

SET UP AND FOLDING BOX BOARD
FIBRE BOARD AND STRAWKRAFT
CAN, CAP AND TUBE STOCK
MANILA SPECIALTIES

Plants and People
(Continued)

from the warehouse area directly to the three hydrapulpers, effecting continuous straight-line flow from raw material to finished paperboard.

The new mill will turn out all the better grades of combination boxboard as well as clay coated board in a caliper range from 0.016 to 0.050 in., sheeted or in rolls. A large portion of the additional volume from the new mill will be available to paperboard converters.

The **Keller-Dorian Corp.,** New York, makers of box cover papers, announces these personnel changes: **F. C. Kaiser,** vice president in charge of manufacturing and production; **W. E. Nelson,** sales manager, and **A. Serrat,** treasurer.

Election of **Charles E. Palmer,** former vice president, to the presidency of **Frank D. Palmer, Inc.,** manufacturers of packaging machinery, Chicago, has been announced. His father, **Frank D. Palmer,** former president and founder of the firm, will become chairman of the board of directors.

The promotion of **Gustav L. Nordstrom** of Springfield, Pa., to the rank of Major in the U. S. Marine Corp Reserves has been announced. Major Nordstrom is assistant secretary of the **National Paper Box Mfrs. Assn.**

Production is scheduled to start this month at the new **Continental Can Co.** fibre drum plant in Tonawanda, N. Y. **Paul E. Kreischer,** former assistant manager of the company's plant in Van Wert, Ohio, is plant manager.

The Lassiter Press, Inc., Charlotte, N. C., one of the largest printing plants in the South, has purchased a controlling interest in **Transparent Packings, Inc.,** of Charlotte, N. C.

Announcement has been made of the purchase of the **Klingrose Machine Corp.,** Brooklyn, by **American Type Founders, Inc.,** Elizabeth, N. J. The company will now be called the Klingrose Gravure Div. of American Type Founders, Inc. It manufactures multicolor web-fed rotogravure presses.

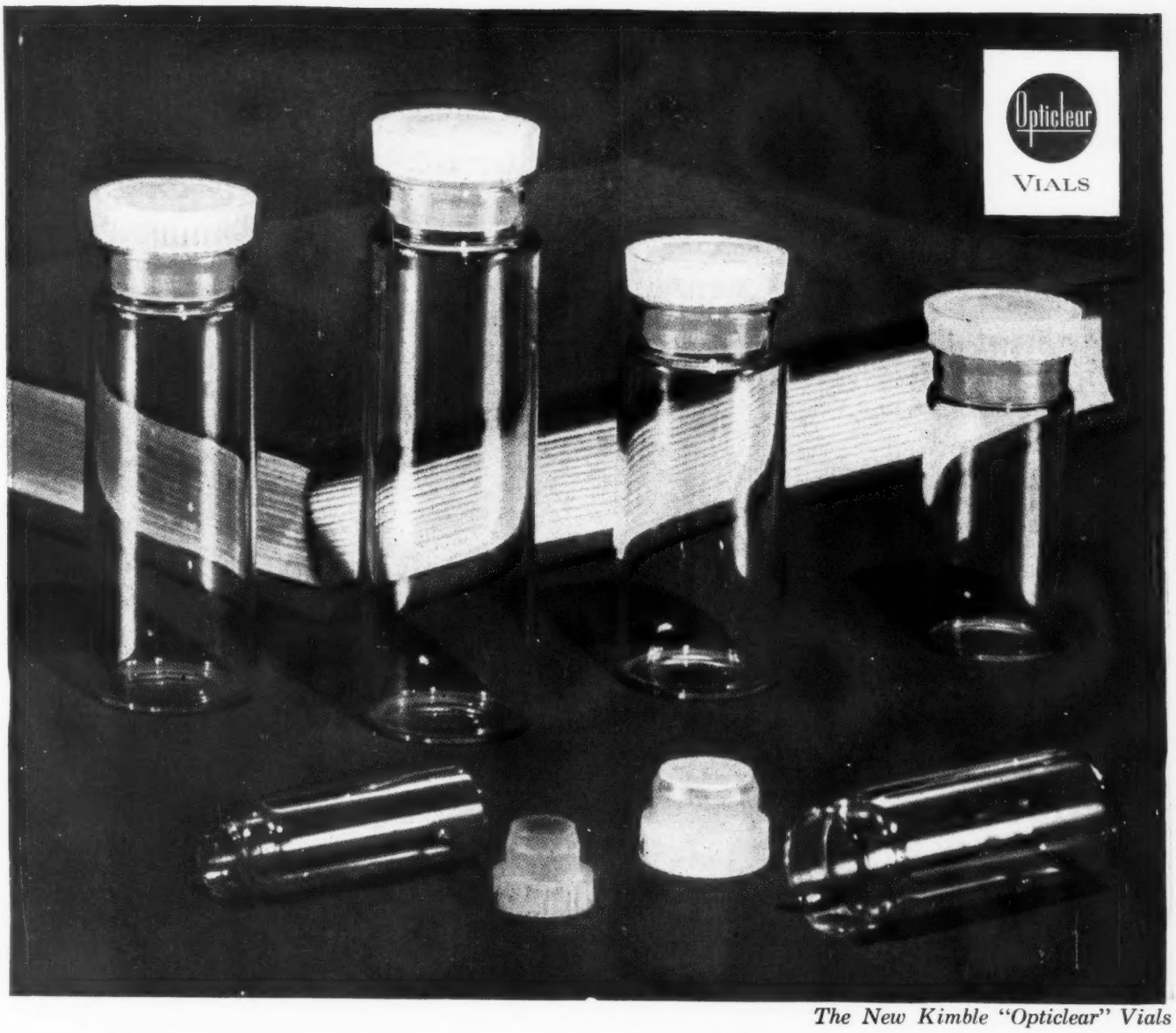
John P. Mather has been named New England district manager of **Geo. H. Morrill—General Printing Ink Division, Sun Chemical Corp.** He assumes the duties of **Edmund J Shattuck,** who has retired.

Dr. George W. Low, Jr., has been appointed manager of **American Viscose Corp.'s Sylvania Division** plant at Fredericksburg, Va. He succeeds **George J. Alles,** whose appointment as purchasing agent was recently announced.

A new company, **Ceragraphic, Inc.,** has been formed by **H. J. Warsager, Anthony Velonis** and **Harry Knight,** formerly associated with Creative Printmakers, Inc. The principals have purchased Creative's Newark, N. J., plant. The staff of the former company has been retained by the new firm.

James S. Leigh, general manager of **J. J. Dix, Inc.,** New York, makers of set-up boxes, was killed recently in an automobile accident.

George J. Kroeck, honorary president of the **National Paper Box Mfrs. Assn.** and head of the **Kroeck Paper Co.,** Chicago, died Oct. 6 in Chicago.



The New Kimble "Opticlear" Vials

Lustrous... Sparkling... Elegant...

—and as serviceable as they are attractive!

• You must *see* the new Kimble "Opticlear" Vials to fully realize how beautiful they are! The flawless distribution of glass and the gemlike luster preclude distortion of product. The new Kimble stoppers afford complete protection to the vials' contents—add greatly to the containers' ethical appearance.

The new stoppers are of featherweight translucent plastic. They form such a tight seal with the vials' tooled necks that contents remain virtually moisture-free indefinitely. Continued re-use will not impair their sealing efficiency . . . yet opening and resealing require but slight effort.

You will want to see these new vials . . . to examine and test them. If you will let us know the sizes required for your product, we will be glad to send samples.

Specify Kimble for Assurance of Container Quality

KIMBLE GLASS TOLEDO 1, OHIO

Division of Owens-Illinois Glass Company

For Your Information

The Package Machinery Mfrs. Institute met on Oct. 12 and 13 at the Roosevelt Hotel, New York, listened to retiring **President George W. Von Hofe,** of New Jersey Machine Corp., present a detailed list of "New Developments in Packaging Machinery"; elected as president **H. Kirke Becker,** president of Peters Machinery Co., Chicago; as vice presidents, **John P. Corley,** Miller Wrapping & Sealing Machine Co., Chicago, and **Edward G. Kuhn,** Consolidated Packaging Machinery Corp., Buffalo, N. Y.

The Third National Materials Handling Show, sponsored jointly by the **American Society of Mechanical Engineers** and the **Materials Handling Institute,** will be held at Convention Hall, Philadelphia, Jan. 10 through 14. The A.S.M.E. groups will conduct a five-day conference on materials handling concurrently with the exposition. Exhibition space has already been contracted for by 192 companies, according to **Clapp & Poliak** of New York, exposition managers. Serving as co-chairmen of the technical program committee for A.S.M.E. are **Curtis H. Barker, Jr.,** of Pallet Sales Co. and **Prof. W. R. Mullee** of New York University. **S. W. Gibb,** president of the Materials Handling Institute, is head of their show committee.

National Assn. of Frozen Food Packers has announced its plans for the 1949 industry-wide show which will be held March 6 to 10 at the Hotel Stevens in Chicago. The convention and exposition committee includes: **Fred J. Becker,** president of the association; **W. L. Pavlovski,** president of **Quick Frozen Food Assn. of Chicago; William M. Walsh,** president, **National Wholesale Frozen Food Distributors, Inc.; T. N. St. Hill,** president, **National Preservers Assn.; Watson Rogers,** president, **National Food Brokers Assn.; Edgar M. Burns,** president, **National Assn. of Refrigerated Warehouses,** and **Fred M. Deutsch, Marathon Corp.,** as exhibitor representative.

Announcement has been made by the **Point of Purchase Advertising Institute, Inc.,** New York, that advertising agencies, advertisers, collegiate, business and marketing departments, libraries and research organizations may now become associate members. Membership dues for this new catagory are $250 annually.

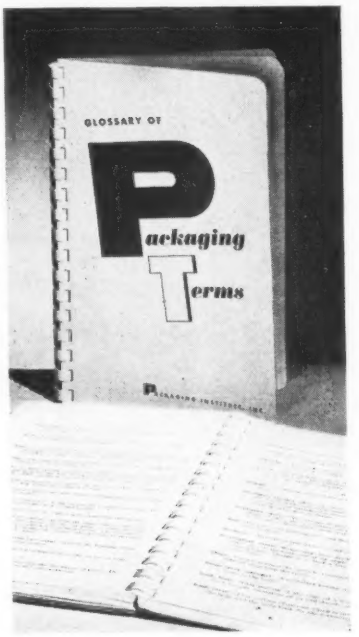
The Institute of Paper Chemistry, Appleton, Wis., has published "Permeability of Organic Materials to Gases, Parts I and II" as #169 of the Bibliographic Series. The authors are **Clarence J. West** and **George B. Sears** of the staff and **Walter B. Kunz** of **American Viscose Corp.** Priced at $5, copies may be obtained from the Institute.

What's doing

Nov. 15-17—**Grocery Mfrs. of America,** Waldorf-Astoria, New York.

Nov. 22-23—**Tri-States Packers Assn.,** annual convention, Traymore Hotel, Atlantic City.

"Glossary of Packaging Terms" (**Packaging Institute, Inc.,** 342 Madison Ave., New York 17, N. Y; $1.75 to members, $2.75 to non-members) is a creditable first attempt at standardizing terminology in the many diverse trades which make up — and supply — the packaging field.



A spiral-bound book of 187 pages, it lists alphabetically some common definitions of terms under such headings as General (including tables of weights and measures), Adhesives, Bags, Boxes, Barrels, Cans, Cartons, Closures, Labels, Machinery, etc. Many of the sections have been contributed by trade associations. The Institute has frankly labeled this a first edition, subject to revision, since 100% accuracy and completeness could hardly be attained on the first attempt. There are errors (such as a definition of film as a membrane "not less" than 0.003 in. in thickness) which may be typographical and which, it is hoped, will be corrected in future editions. A notable omission is a section on plastic materials, on which clarification of terminology is particularly needed by people in the packaging field.

Principal speaker at the 42nd annual convention of the **National Canners Assn.** will be **Harold E. Stassen,** according to a recent announcement. The 1949 meeting will be held in Atlantic City, Jan. 14 through 20.

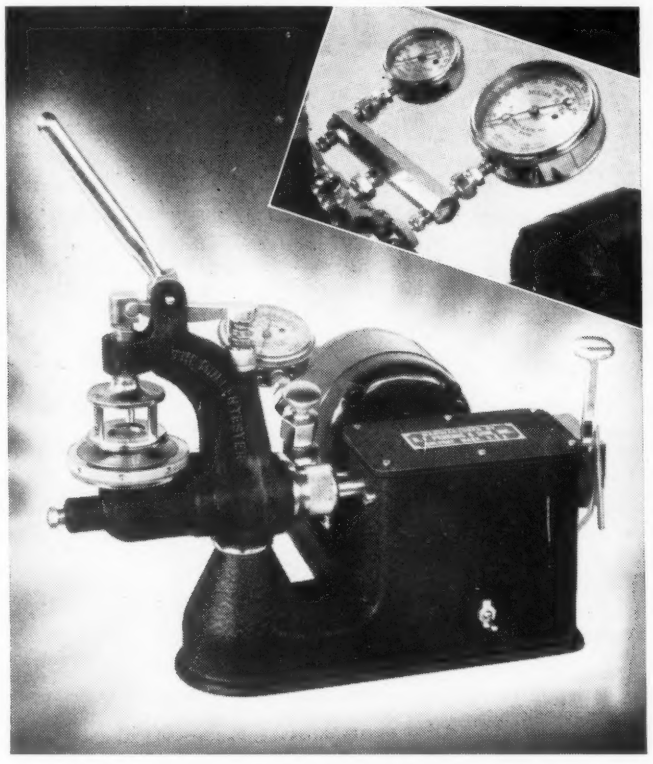
Glass Container Mfrs. Institute, Inc., has moved to 8 W. 40th St., New York. The new telephone number is Bryant 9-6036.

The mid-year meeting of the **Fibre Drum Mfrs. Assn.** was held in Chicago on Oct. 6, 7 and 8. Business sessions were presided over by the association president, **R. F. Gumbert** of the Plyfiber Container Corp. and vice president **W. J. Mahoney** of the Master Package Corp. The members of the association participated in the exhibit of fibre drums at the Industrial Packaging and Materials Handling Exposition, which was held in Chicago on the same dates as the association meeting. Date for the group's next meeting was set for May 11 through 13, 1949, at Atlantic City.

Sherman Paper Products Corp., Newton Upper Falls, Mass., has published "Special Packing Manual." The

Mullen Test

Recognized the world over as standard bursting test



Motor-Driven Model C Mullen Tester

Tests materials not exceeding .025" in thickness and a bursting strength of 200 pounds. Gauge capacities 30, 60, 100, 120, 160 and 200 pounds per square inch. Note two gauge-mounting by use of manifold for testing materials of widely different strengths.

The Mullen Tester operates on the hydraulic principle—bursting strengths are determined irrespective of any other factor. Conforms to ASTM and TAPPI standards.

Send for booklet describing complete line of Perkins Testers.

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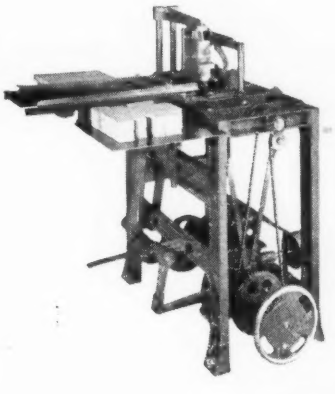
If you are trying to eliminate waste in your packaging department, speed up production, improve accuracy—you will find the machines illustrated below can efficiently do the job.

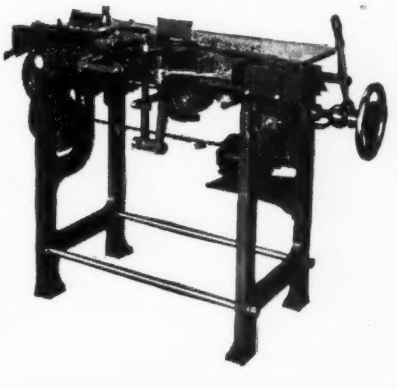
These machines are used by the leaders in the Food Processing Industry who realize they must modernize their packaging equipment to meet intra-industry competition.

If you are still using hand methods to set up and close cartons, or if your packaging machines are old and obsolete, why not change to the modern and efficient packaging machinery built by Peters?

For further information on the most efficient machines to meet your requirements, send us samples of your cartons or drop us a line today.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 35–40 cartons per minute, requiring only one operator. After the cartons are set up, they drop onto a conveyor where they are carried to be filled. Machine can be made adjustable to set up several size cartons.



This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 35–40 cartons per minute, requiring no operator. After cartons are filled, they enter machine on conveyor and are automatically closed. Can also be made adjustable to close several different size cartons.

PETERS MACHINERY COMPANY

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Ask us to submit individualized multicolor designs... Take your pick... The design you choose, printed in 2 or 3 smart colors, will cost just slightly more than an ordinary "sticker" that can create a poor impression of your company.

We'll print your labels in roll, pad or flat form on fine paper stock backed with an excellent adhesive.

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There's Packaging Power in
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There's Power to Prove Itself . . . Try it on your particular case. Note how it stretches several times its size for snug fit. Learn how simply and securely it is heat sealed. See how it improves on your present packaging. Write for free samples and full information today.

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EXTRUDED PLASTIC PACKAGING
Race and Mill Streets • Bath, Pennsylvania

For Your Information
(Continued)

manual consists of 32 pages, giving descriptions and illustrating uses of the company's flexible corrugated paper material, Corroflex. Samples of Corroflex in different thicknesses are included, together with specifications and samples of the company's V-Line of greaseproof papers.

Manufacturers of packaging materials used and sold by frozen food locker plant operators will be interested in the results of a survey, "Your Market in the Frozen Food Locker Industry," published by *Locker Management.* The survey gives a breakdown of types of frozen food packages, together with information about the sale of packaging materials. Copies of the survey may be obtained by writing to 105 S. Ninth St., St. Louis, Mo.

Functional properties of corrosion-retarding, greaseproof papers such as those used for packaging metal parts are described in a new brochure printed by **Rapinwax Paper Co.** Samples of the paper are included with the booklet. Copies of "Metal Parts Packaging" may be obtained upon request to the company, 155 N. Clark St., Chicago.

International Paper Co., Bagpak Division, has issued an eight-page folder describing its line of machines for closing multiwall paper bags. Requests for copies should be addressed to 220 E. 42nd St., New York.

The Waterbury Farrel Foundry & Machine Co., Waterbury, Conn., has published Catalog "J" giving specifications and illustrations of collapsible tube and cap machinery which the company makes. Copies may be had on request to the company.

Users of glass containers will be interested in a new booklet published by **National Adhesives,** New York, on the selection of the proper type of adhesive for applying all types of labels to glass surfaces. "Successful Bottle Labeling" has chapters on methods of labeling, selections of labels, container design, handling of adhesives, regulation and care of machines and a number of charts. Requests for copies should be addressed to the firm, 270 Madison Ave. Canadian manufacturers may obtain copies from Meredith-Simmons, Ltd. In England, National Adhesives, Ltd., Slough, Bucks, has copies.

A catalog of dairy containers together with dairy bottling specifications has been published by the **Owens-Illinois Glass Co.,** Toledo, Ohio. Copies are available on request to the company.

Dearborn Chemical Co., Chicago, has prepared a guide to packaging methods for the control of corrosion, based on the procedures and products which were used extensively by manufacturers and the armed services during the last war. "Preventing Corrosion in Export Packaging" covers cleaners and cleaning methods, the removal of rust, rust preventives, the conforming wrap, carton overwrap and dip sealing. For copies, write the company at 310 S. Michigan Ave., Chicago.

The practical question, "What Good Are Standards?" was the theme of the annual meeting of **American Standards Assn.** last month at the Waldorf-Astoria Hotel, New York. **W. John Kenney,** Under Secretary of the Navy, was guest speaker at the main luncheon.

making a good impression

What are the properties of a good printing ink? smooth flow? uniform color value? stability under varying weather conditions? versatility? All of these and more. That is why discriminating printers of packaging containers, labels, food and box wraps choose Driscoll's Coverwell Inks. They know that the millionth impression, as well as the first, will make a good impression—will help sell more of the product contained within.

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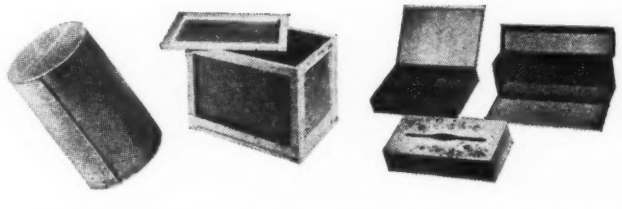
DRISCOLL COVERWELL INKS FOR EVERY PRINTING PURPOSE

DOES THE PACKAGING MATERIAL YOU'RE NOW USING MATCH THESE QUALITIES?

You can answer "Yes" only if you package with TEKWOOD!



STRENGTH! Here's a material so strong that the Army used it for Tool Kits, in place of steel!

EASE OF WORKING! Pre-form it or post-form it . . . with or against the hardwood grain. Die cut it, emboss it, rout and fold it. Tekwood is surprisingly pliable in some forms, amazingly rigid in others.

LIGHT WEIGHT! Particularly important in air shipping. You can ship more goods, at less cost . . . when you use Tekwood containers.

LOW COST! Tekwood gives you these and many other important advantages at surprisingly low cost. You'll save money 4 ways! Strength reduces *product* damage. Ease of working reduces *labor cost*. Light weight saves *shipping charges*. Low material cost minimizes *packaging expense*.

Compare Tekwood's Toughness with other Materials

Puncture Test Data

MATERIAL	General Electric-Beach Puncture Test (Inch-Ounces per Inch of Tear)
Packaging grade Tekwood, .080" thick	630
Standard Tekwood, 1/8" thick	979
Protekwood, 5/32" thick	930
Birch Plywood, 3/30" thick	800
Gum Plywood, 1/8" thick	600
Gum Plywood, 3/16" thick	875
Cottonwood Plywood, 3/20" thick	820

(Above tests made by Container Laboratories, Inc., New York City)

THERE ARE THREE TEKWOOD PRODUCTS TO MEET YOUR SPECIAL NEEDS

Standard Tekwood: 1/8" thick, faced with cross-grained Cylinder Kraft paper on each side.

Special Packaging Grade: .080" thick, faced with special tough liner paper. High wet strength. Moisture resistant.

Protekwood: Paper facings are impregnated with asphalt and resin. Very high water resistance. Rat proof. Excellent for export packaging.

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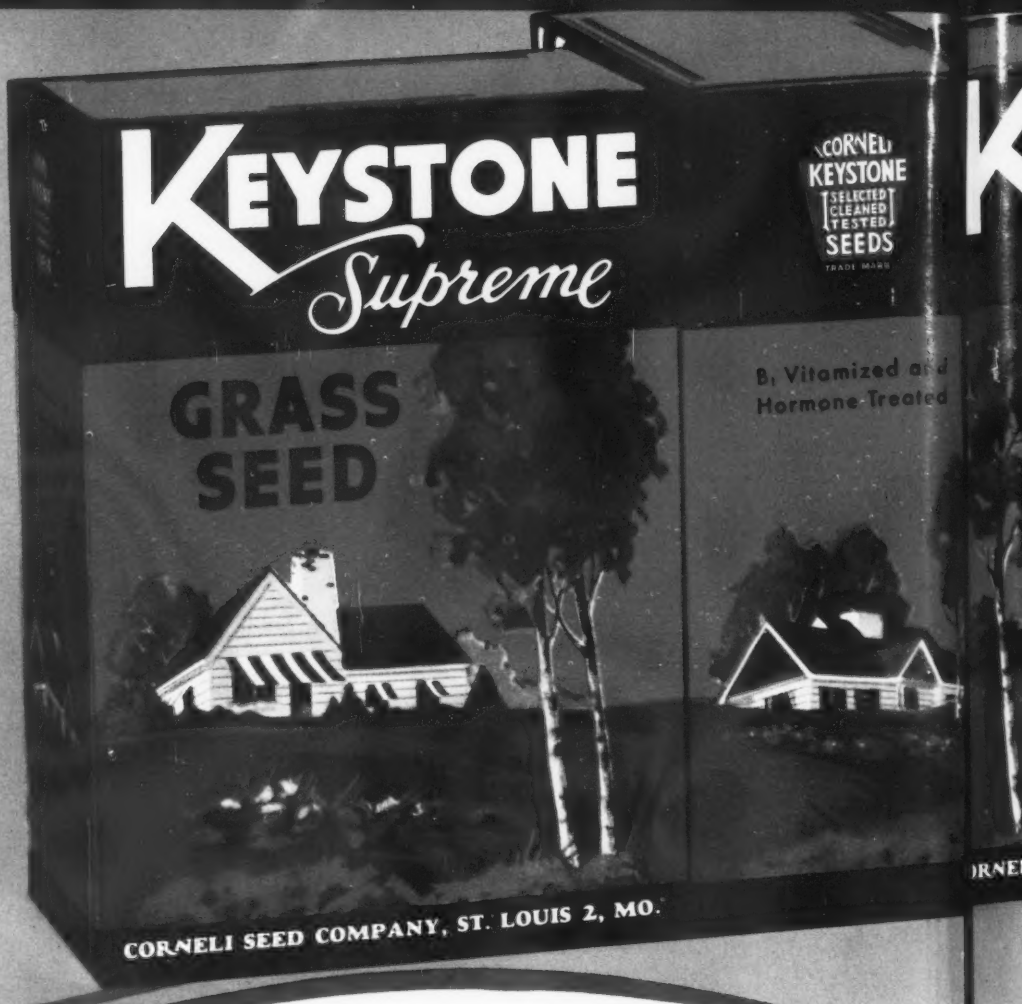
55 WEST 44th STREET, NEW YORK 18, N.Y.

Manufacturers of Tekwood and Weldwood Plywood

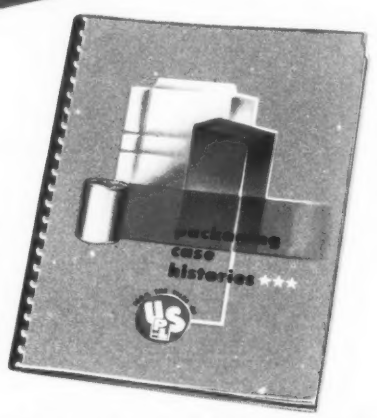
Tekwood is a patented product — U. S. Pat. No. 1997344



New 4-WAY PACKAGE DESIGN . . .

MASS DISPLAY PROVIDES DRAMATIC SALES IMPACT

Full advantage of the dramatic sales impact of mass display merchandising is secured by this unique design technique. When displayed en masse the packages give the effect of multiple home lawns in a typical American urban community. Here is the kind of package design that stops buyers and sells merchandise!



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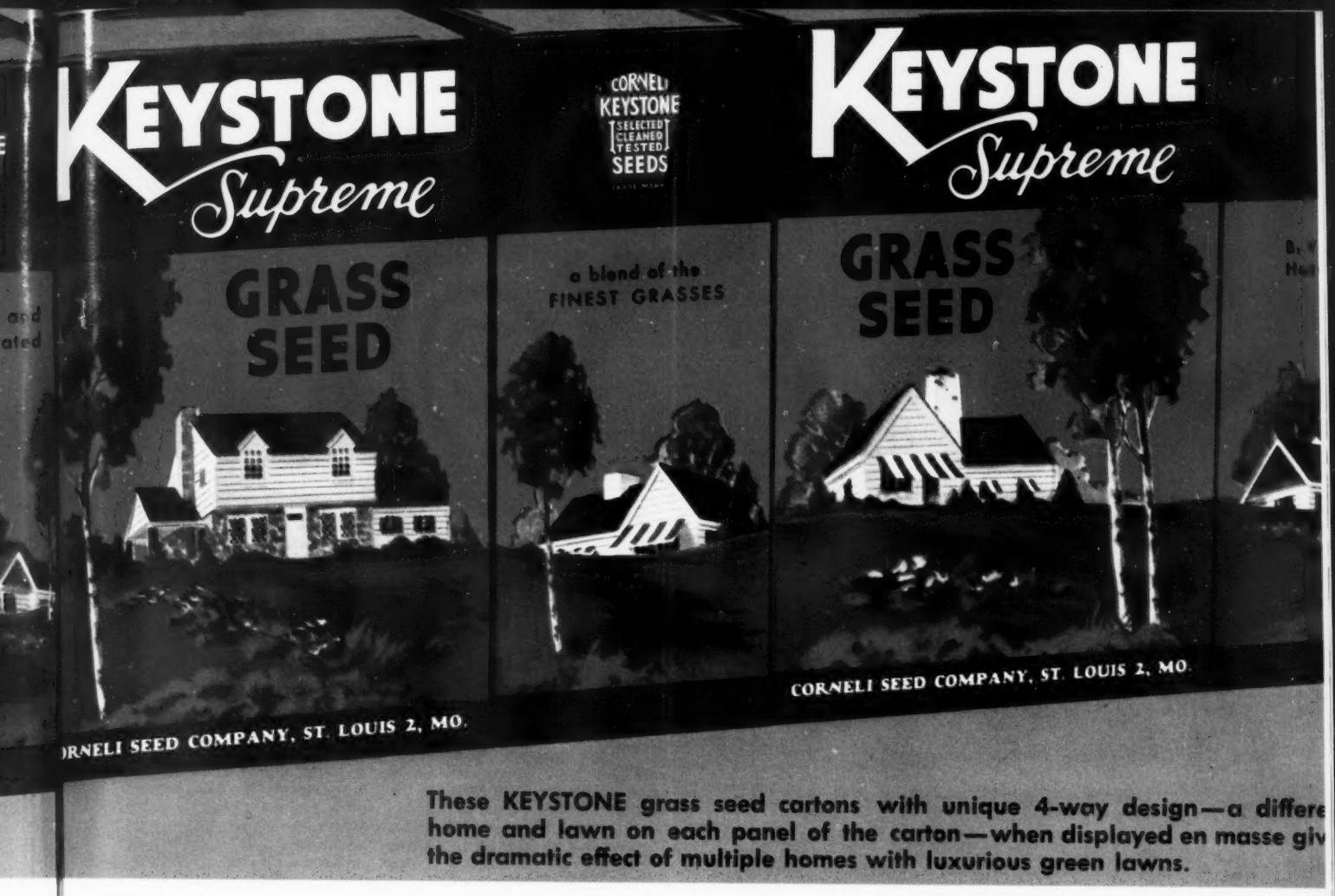
Get this plastic bound portfolio of "Packaging Case Histories from the files of U.S.P.&L." beautifully lithographed in full color and exemplifying U.S.P.&L. design, reproduction and merchandising know-how. Write for free copy today!



These KEYSTONE grass seed cartons with unique 4-way design—a differe home and lawn on each panel of the carton—when displayed en masse giv the dramatic effect of multiple homes with luxurious green lawns.

PRODUCES DRAMATIC POINT-OF-SALE IMPACT

for Grass Seed Cartons in Mass Display

FOR many years the Corneli Seed Company of St. Louis has been an important leader in the production of quality seed. Recently, the company planned expansion in the consumer field with its brand of KEYSTONE SUPREME grass seed. Packaging designers at U.S.P.&L. were commissioned to design a package in which to market the retail product.

After careful analysis by U-S marketing men, a design was developed for a folding carton which would lend itself to modern mass merchandising methods in department stores, hardware stores and seed stores. The results are shown in the illustrations.

The dramatic portrayal of the product by the package has resulted in unusually fine acceptance and sales for a new consumer product. In the words of a Corneli Seed Company sales official: "The launching of our new retail product in competition with established consumer brands demanded a package with a dramatic sales impact. The KEYSTONE folding carton filled that requirement in every respect. We are highly pleased with our initial results and give considerable credit to the package for our success."

Whether you are contemplating the marketing of a new product or improving the position of an established brand, the package provides the all important sales impact at retail point-of-sale. Make sure your package is prepared for the competitive sales battle today. Consult an experienced U-S sales representative now.

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POLYTHENE
CLOSURES

Lumelite plug type, screw type with applicator, regular screw type (needs no liner) are recognized for these outstanding characteristics.

- Resilience assures tight fit
- Chemically inert
- Non-toxic
- Odorless
- Compatible with most products
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These polythene packaging innovations are custom molded to your specifications. In many cases are less expensive than other types of closures.

We have designed and produced many unusual closures for various companies. Perhaps we can do the same for your product. Write today outlining your problem.

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BARRIER MATERIALS

• Moisture-vaporproof
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We manufacture laminated sheets conforming to government specifications

AN-B-20
JAN-P-131
JAN-B-121

Information and samples supplied promptly upon request

THE FLOYD A. HOLES COMPANY
BEDFORD, OHIO

U.S. Patents Digest

Edited by H. A. Levey

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Tape Dispenser, D. Marinsky, Bronx, N. Y. U. S. 2,447,518, Aug. 24. A dispensing device comprising a pair of plates having inturned flanges at one end, a pair of pins joining the other end of the plates at side portions thereof, a tape cutter and holder member pivotally supported on one of pins and adapted to bear on the other pins, said member having at its free edge a cutter.

Tape Dispenser, D. Marinsky, Bronx, N. Y. U. S. 2,447,519, Aug. 24. A tape dispenser comprising a casing with which a spool of tape is detachably mounted, casing having a peripheral wall encircling the spool, wall having spaced opening between which is a tape-engaging platform, tape from spool arranged in casing being adapted to be drawn through one opening and a cutter movable circumferentially of casing wall to and from openings.

Collapsible Covered Container or Box, K. T. Buttery (to Sutherland Paper Co., Kalamazoo, Mich.). U. S. 2,447,563, Aug. 24. A container with bottom, front, rear and end walls, end walls having front corner flaps extending from front ends thereof and a cover connected to top edge of rear wall and having a closure flap on its swinging edge.

Sealing Cap for Vacuum Bottles and the Like, G. Keith, Hollywood, Md. U. S. 2,447,581, Aug. 24. A combined sealing-cap and drinking-cup element for a vacuum bottle having an orifice lip, said element comprising a cup provided with rim and base and having detachably positioned in its base a plug provided with an annular recess containing a fluid, a flexible diaphragm secured to the plug and covering the fluid, and internal thread means provided in the cup adjacent to its rim for engaging bottle and holding cup with bottle lip pressing diaphragm into recess.

Non-Refillable Bottle, L. Bumgarner, Port Townsend, Wash. U. S. 2,447,484, Aug. 24. In a non-refillable bottle having a neck, neck having longitudinally extending opposed tapered slots formed in the inner surface of wall of neck, a valve supporting plug slidably disposed in bottle neck with spring projected locking pins disposed transversely of plug adapted to seat in opposed tapered slots in bottle neck.

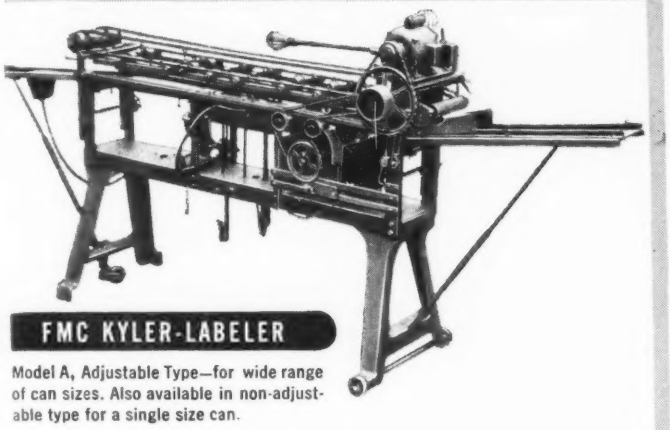
Heavy-Duty Shipping Carton, B. M. Williams (to Gaylord Container Corp., St. Louis, Mo.). U. S. 2,447,677, Aug. 24. A shipping carton comprising a relatively tall tubular open-ended upright liner and upper and lower slip covers telescoping over open ends of liner, the improvement of which consists in slitting one side wall of liner from top to a point located above lower slip cover and slitting side wall substantially from side to side at said point, thereby forming in wall a hinged door adapted for horizontal swinging movement.

Method of Forming Caps, J. W. Ekstedt, Union, N. J., and A. F. Pityo, Clifton, N. J. U. S. 2,447,690, Aug. 24. The method of forming a blank to apply a cap upon a bottle provided with a bead, comprising taking a circular blank formed of thermoplastic material having greater diameter than the maximum exterior diameter of the bead and heating blank so that it may be formed, applying heated blank to free end of bead and causing blank and bead to enter bore, allowing formed cap to harden, then removing cap from bore.

Device for Packaging and Dispensing Intravenous Solutions, N. Evans (to Don Baxter, Inc., Glendale, Calif.). U. S. 2,447,691, Aug. 24. A device for packaging and dispensing a sterile solution, which comprises a container for the solution having a neck, stopper for container closing neck, opening in stopper, supplemental container having its upper end fitting the opening stopper and depending from stopper within container, and means for dispensing solution from container to a recipient, mounted within said supplemental container.

Manufacturing and Filling of Essence of Containing Packages for Brewing Beverages, L. Hirschhorn (to National Urn Bag Co., Inc., Long Island City, N. Y.). U. S. 2,447,754. Aug. 24. The method of manufacturing infusion packages comprising the steps of folding a traveling strip of foraminous sheet material formed of a filter layer base coated on one side with an adhering porous "partially fused" thermosetting plastic lamina

An Inexperienced Man Can Operate This Labeler...

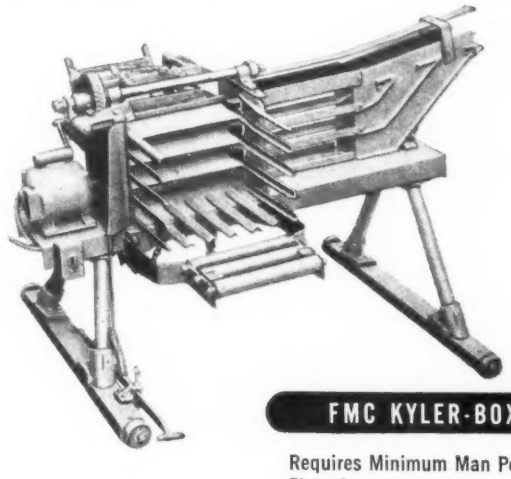


FMC KYLER-LABELER

Model A, Adjustable Type—for wide range of can sizes. Also available in non-adjustable type for a single size can.

FMC-Kyler Labeling Machines are built with such extreme simplicity that an inexperienced worker can operate the machine and make all can-size adjustments.

While these versatile machines can be operated at extremely high speed when peak capacity is required, they are designed and constructed to maintain high efficiency at low speeds also.



FMC KYLER-BOXER

Requires Minimum Man Power and Floor Space.

Model P shown here is Motor Driven, and built for any single size can. Operates at maximum speed. Extremely rigid and sturdy for long-life and low-cost operation.

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Write for this 260-page Catalog showing complete FMC Modern line of canning, processing and warehouse machinery.

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Customers appreciate products packaged in Lusteroid. They know that these products are *safe* from accidental roughness in handling because Lusteroid will not break.

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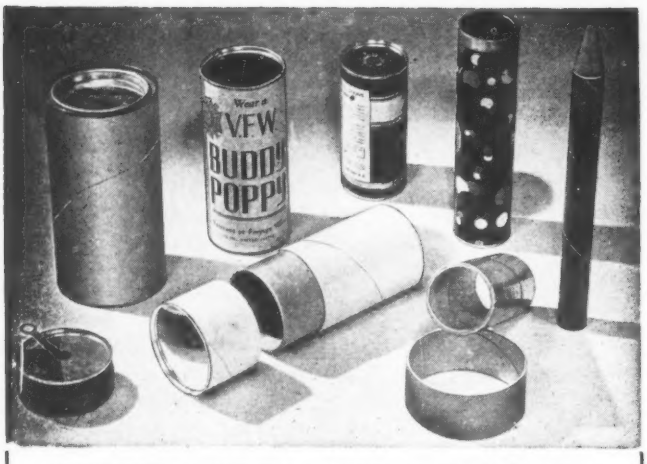

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Available Now!

PACKARD offers spiral-wound round tubes and containers in all conceivable lengths and diameters—drum-shape, long, thin, flat. Sturdy and light-weight, PACKARD containers are perfect for any dry commodity—foods, drugs, chemicals, cosmetics, toys, novelties, insecticides, electrical products, shipping, textiles.

And these low-cost containers are available *immediately!* Whether you choose metal-end or paper-cap, plain or labelled—watch your product go in a PACKARD package.

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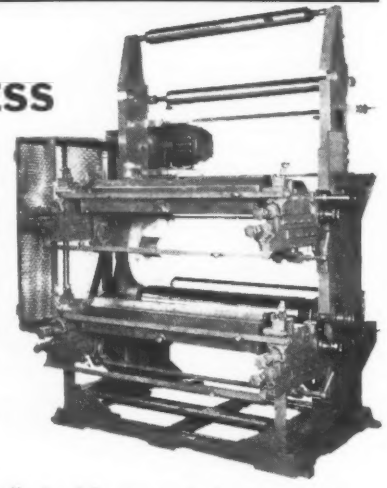
MANHASSET

2 or 3 Color ANILOX PRESS



- Manufactured in printing widths 18, 24, 30 and 36 inches.
- Printing speed in excess of 600 ft. per minute with no splash.
- Cylinders — easily thrown on and off.
- Vertical and horizontal register controlled while press is in operation.
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MANHASSET MACHINE CO.

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U.S. Patents Digest
(Continued)

along the mid portion throughout the length thereof with the coated lamina side in face-to-face relation; pressing and heat sealing for permanent adhesion the opposite contiguous edge portion together into an extending seam and forming an elongated continuous tubular structure, pressing and heat sealing for permanent adhesion the gathered material to form a top closure.

Cap Die, C. W. Goodwin and K. R. Allen (to American Seal-Kap Corp. of Delaware, Wilmington, Del.). U. S. 2,447,855. Aug. 24. A die for forming paper caps having a central depressed diaphragm portion and a peripheral inverted container rim housing.

Article Infeed Mechanism for Wrapping Machines, C. W. Lea (to American Machine & Foundry Co., a corporation of New Jersey). U. S. 2,447,948, Aug. 24. In a wrapping machine having an article lifter table, means for positioning a wrapper in the path of travel of article adjacent receiving station and means for moving article against wrapper and onto lifter table.

Shrinkable Container Closure, J. W. Little (to American Viscose Corp., Wilmington, Del.). U. S. 2,447,983, Aug. 24. A shrinkable container closure comprising a short, hollow section of a seamless, transversely stretched tubing formed of thermoplastic resin, so made that it shrinks transversely when heated.

Apparatus for Sealing Containers, T. F. Cass, Jr., D. Kirk and F. W. Lanigan (to Container Corp. of America, Chicago, Ill.). U. S. 2,447,997, Aug. 24. A carton-sealing machine especially adapted for closing and top sealing a series of filled cartons having integral top flaps coated with a thermoplastic composition and adapted to be overlapped to form top closures therefor, comprising an endless chain conveyor with means for driving conveyor continuously in a predetermined direction, a plurality of carton-pocket means mounted on conveyor at evenly spaced intervals, each pocket receiving a carton in upright position, means for folding top flap to form carton closures as cartons travel, for forcing thermoplastic composition to flow into cracks and crevices between flaps and for removing sealed cartons from pockets.

Dispenser, R. Van Rosen, New York, N. Y. U. S. 2,448,130, Aug. 31. In a device for dispensing articles, a backing, an inner plate on the backing thicker than one-half the thickness of the article, an outer plate pivoted to the inner plate to swing thereon and thicker than one-half the thickness of an article, a transparent cover on outer plate, top slot in outer plate as long as the width of a plurality of articles and slightly wider than the width of an article, a free outlet for the top slot at side of plate and a free outlet for the bottom slot in register with top slot outlet.

Machine for Making Containers, C. B. Tennent, Sr. (to National Folding Box Co., Inc., a corporation of Connecticut). U. S. 2,448,198, Aug. 31. In a carton-forming machine, the combination of means for advancing a carton blank through the machine, a stationary member frictionally engaging a hinged portion of blank causing misalignment and a movable member frictionally engaging hinged portion for correcting misalignment.

Carton Having Integrally Formed Cushioning Means, E. Stone, San Francisco, Calif. U. S. 2,448,401, Aug. 31. A carton for fragile articles comprising a box shell, a closure means for ends of shell, extension flaps integral with walls of shell arranged in complemental pairs at opposite ends of shell, pairs of extension flaps at respective ends of shell being disposed at right angles to each other and means for interconnecting complemental extension members to form inwardly projecting bowed and resilient supports for articles to be packed.

Can Cover Remover, G. C. Erb (to American Can Co., New York, N. Y.). U. S. 2,448,522, Sept. 7. A container with a neck terminating in a curled seat edge and having a reclosure cover for opening, equipped with a pry-off edge and lever.

Heat-Sealing Adhesive Tape, T. F. Murray, J. and S. F. Sharrard (to Eastman Kodak Co., Rochester, N. Y.). U. S. 2,448,683, Sept. 7. A heat-sealing adhesive tape comprising a support coated with a condensation product prepared by mixing one molecular proportion of melamine with three molecular proportions of aqueous formaldehyde at temperatures of 80 deg. C. and adding same to vinyl acetate in proper proportions.

Closure for Containers, F. W. Sohnlein, San Diego, Calif. U. S. 2,448,838, Sept. 7. In a closure for receptacles, the combination of a circular outlet, the edges of which are depressed inwardly to form a ledge having an annular rounded channel therein, a closure plate of larger size than the opening of outlet positioned to cover and extend beyond same, said closure plate

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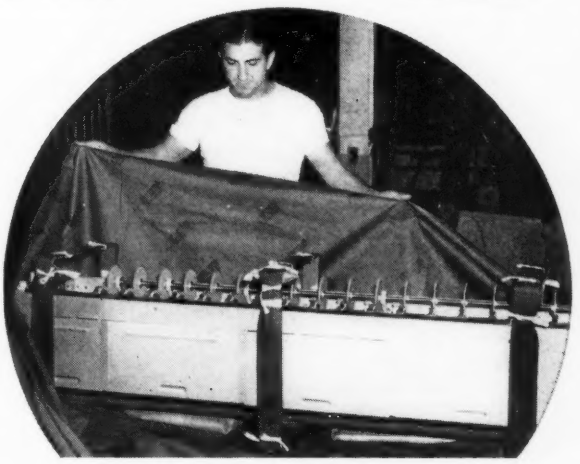

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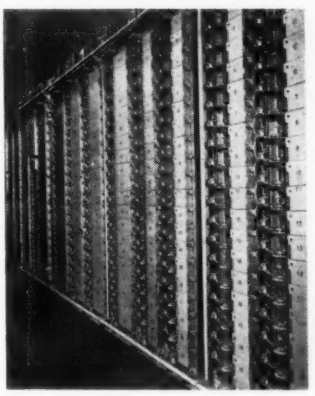

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This photograph shows a Federal Rotary Bay for a telephone exchange. The method of protecting it with AQUASTOP for shipment is shown above.

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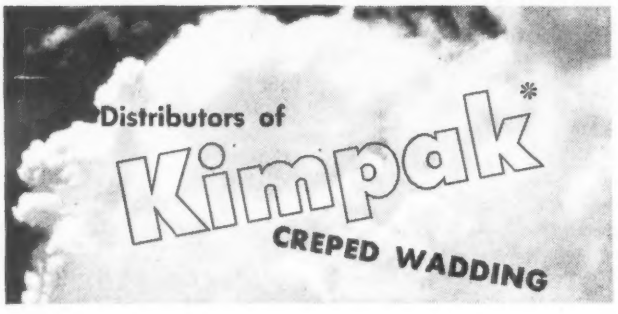

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U.S. Patents Digest
(Continued)

having a downwardly depending annular rounded rib closely engaging with channel and plate having an aperture through which extends a screw inside of receptacle, and a bar in rotatable threaded engagement with the screw a lug secured to plate and positioned to contact bar limits the rotation, engages bottom of ledge upon tightening screw and effects hermetic sealing.

Knock-Down Tray Stack, J. W. Meinhardt (to Gaylord Container Corp., St. Louis, Mo.). U. S. 2,448,679, Sept. 7. A knock-down tray stack made entirely of corrugated board comprising duplicate upper and lower side-wall sections permanently closed on all sides and open at their tops and bottoms; duplicate closure sections, one for top of upper side-wall section and the other for bottom of lower side-wall section, each closure section comprising a closure panel disposed in abutting relation to adjacent end of side-wall section and wide flat tubular edge frame secured to closure panel fitting around end of wall.

Powder-Filling Apparatus, D. D. Peebles and G. P. Hensley (to Golden State Co., Ltd., San Francisco, Calif.). U. S. 2,448,733, Sept. 7. An apparatus for filling containers with powder, a chamber adapted to receive a container to be filled, chamber including a door for permitting removal or introduction of container, means serving to mount the door for swinging movement between open and closed positions and means serving to connect interior of chamber to source of vacuum.

Divisible Carton, L. P. Grecco, Portland, Ore. U. S. 2,448,795, Sept. 7. A divisible carton for bottles made of a hollow rectangular fibreboard box having single thickness top, bottom and end walls, save for gluing overlaps; two duplicate compartmented fillers therein, fillers comprising back-to-back transverse partitions with glue flaps attached to box sides.

Pocket-Type Tissue Container, W. A. J. Mitchell, Appleton, Wis. U. S. 2,448,819, Sept. 7. A pocket-sized paper handkerchief package comprising a pocket-sized paper stock handkerchief-packaging and dispensing container, container being flat and rectangular in form, a corner portion of the marginal rim of container being provided with transversely extending, straight-across score lines, one of lines being on one side of and spaced from corner portion and the other line being spaced from an opposite side of corner portion and so made to provide a completely open corner, when cap is removed, permitting access to interior of container and removal of square-shaped handkerchiefs.

Cap for Flasks or the Like, C. Lamar, Brooklyn, N. Y. U. S. 2,448,893, Sept. 7. A combination funnel and cup comprising a body portion, a lid, and a double hinge; open-ended nozzle extending downwardly from bottom, lid having a centrally disposed stopper projecting therefrom and pin extending through stopper and lid, securing them together.

Pellet Container and Selector, F. L. Sessions, Lakewoork, Ohio. U. S. 2,448,918, Sept. 7. A pellet container and selector comprising a box having partitions forming a plurality of open-top pockets arranged in crisscrossed rows; a loose, removable selector card above partitions, covering all pockets; selector card having coupon portion comprising detachable coupons, each coupon being positioned to cover one pocket.

Container Closure, S. Shaffer (to Ball Brothers Co., a corporation of Indiana). U. S. 2,449,014, Sept. 7. A closure for an opening in a container comprising a lid of flexible metal contruction, lid having a continuous rim constructed and arranged to rest upon and abut lip edge of container opening.

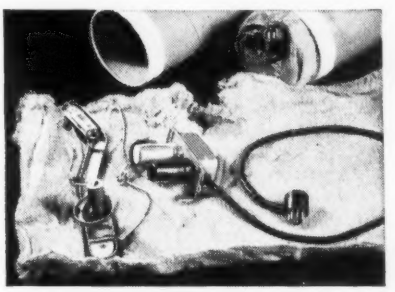
Dispensing Containers, W. L. Barnes and J. J. Harrison (to Michigan Carton Co., Battle Creek, Mich.). U. S. 2,449,046, Sept. 14. A dispensing container comprising walls provided with overlapping inner, outer and intermediate closure flaps adhesively secured together, inner flap having a tucking tongue on one end thereof disposed within container when closure flaps are closed and constituting a pouring opening closure tucking flap.

Automatic Adhesive Tape Dispenser, A. A. Anderson (to Minnesota Mining & Mfg. Co., St. Paul, Minn.). U. S. 2,449,047, Sept. 14. In a device for dispensing tape, means for holding a supply roll of tape, cutter wheel adapted to receive tape from roll and anvil member adjacent to cutter wheel, cutter wheel having tape-gripping and severing means, said wheel being positioned to press severing means against anvil as wheel rotates.

Packing of Lettuce and Package, A. B. Haslacher, San Francisco, Calif. U. S. 2,449,164, Sept. 14. A lettuce package consisting of a wooden crate having opposite end sections, at

Gleaming refrigerator gets a glide ride —from shipping room to destination. Dependable, efficient KIMPAK provides surface protection to Servel Refrigerators and other appliances. Photo through the courtesy of Servel, Inc.

Flotation Packaging—Vaccine vial. Photo courtesy Cutter Laboratories.



Blocking and Bracing—Phonograph pick-up arm and amplifying unit. Photo courtesy Jacobs Mfg. Co., Inc.

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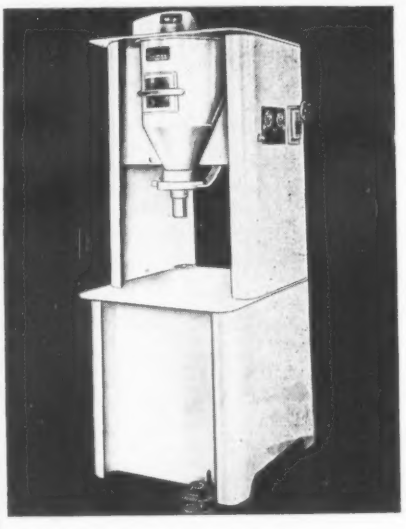

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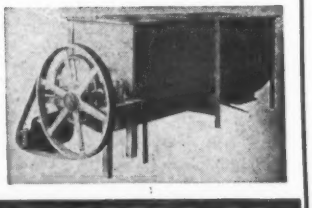

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least one section including spaced end posts and a top and bottom cleat forming frame inside crate, an air-circulation member mounted in frame and having vertical flutes therein, at least two tiers of lettuce heads position in crate with butts upward and a laminated separator sheet having at least one corrugated inner layer and position on top of the butts in subjacent lettuce tier, a waterproof liner between tier ends.

Self-Opening Container, N. B. Wales (to Industrial Patent Corp., New York, N. Y.). U. S. 2,449,186, Sept. 14. A hermetically sealed container, opened by application of heat thereto, comprising a cover formed of two disks seam-welded circumferentially one to the other to form a chamber therebetween and means to inject and seal in said chamber volatile fluid.

Ticket Marking and Attaching Machine, C. B. Weller, Los Angeles, Calif. U. S. 2,449,188, Sept. 14. In a machine of this type, means defining a guideway for strip stock; stock-feeding means, printing mechanism and means for mounting printing mechanism in position for inking.

Liquid Printing Ink Containing a Lignin Compound, C. E. Irion (to Margot Corp., New York, N. Y.). U. S. 2,449,-230, Sept. 14. A liquid printing ink consisting essentially of coloring matter and a binder dispersed in a hydrophilic liquid carrier containing water, the predominate constituent of binder being a lignin from fibre liberation.

Means for Vacuum Sealing Flexible Packages, S. H. Berch (to The Flexible Vacuum Container Corp., Los Angeles, Calif.). U. S. 2,449,272, Sept. 14. Means for shaping and vacuum sealing filled flexible containers which includes a mold within which a filled container is positioned and which mold agrees substantially with the final configurations of the sealed package desired, a sealing head adapted to assume a sealed position with relation to the mold whereby a vacuum-tight chamber will be formed.

Powder Box Having Sealing Ring, G. R. Bent (to Consolidated Cosmetics, Chicago, Ill.). U. S. 2,449,196, Sept. 14. A paperboard powder box comprising a container having a closed bottom and straight side walls extending upwardly from bottom and open top, cover having a closed top without indentations and straight side walls extending downwardly from top to open bottom, sponge rubber ring having a top and straight side walls, side walls of ring being parallel to container, top of ring being attached to inner surface of top of cover and containing a compressing ring for a seal to prevent loss of powder.

Bottle Cap, P. Gavriles, Laurel, Md. U. S. 2,449,290, Sept. 14. A bottle cap comprising a resilient cap having a pair of channels in the upper face, a bail member disposed in each channel, channels being of a width less than diameter of bail members and of a depth to enclose bail members; to hold bail members within the channels, each bail member having legs terminating in eyelets, with a divided ring engaged therethrough.

Method of and Machine for Applying Labels, W. Hoppe (to National Bread Wrapping Machine Co., Springfield, Mass.). U. S. 2,449,298, Sept. 14. A device for applying to an article a label having a thermoplastic surface which comprises a shoe having a surface heated to a temperature sufficient to soften the thermoplastic, and means for carrying the label across the shoe with its thermoplastic surface in direct contact with the shoe and thence into contact with the article.

Method of Packaging, E. L. Smith (to Package Machinery Co., Springfield, Mass.). U. S. 2,449,334, Sept. 14. A method of wrapping an article which comprises printing upon a rectangular wrapper a rectangular band of pressure-sensitive adhesive, said band having a length slightly in excess of length of article and a width slightly in excess of twice the width of article and having its width asymmetrically disposed on the sheet to produce a wide margin at one side of the sheet, folding the wrapper over article to bring folded-over portions of band into superposed registry with top and bottom portions of wrapper overlapping article.

Method of Sealing One End of Open-Ended Tube, Filling Through Remaining Open End, and Sealing Remaining Open End, C. Herzog, Belleville, N. J. U. S. 2,449,478, Sept. 14. The method of filling and sealing glass tubes which are originally open at both ends, comprising holding a plurality of glass tubes open at both ends in spaced relation and vertical by inserting same in spaced openings of a holder, applying heat to the upper ends of glass tubes while they are within holder to plasticize same, pinch closing upper plasticized ends, inverting tubes, filling other ends, then repeating heating and pinching.

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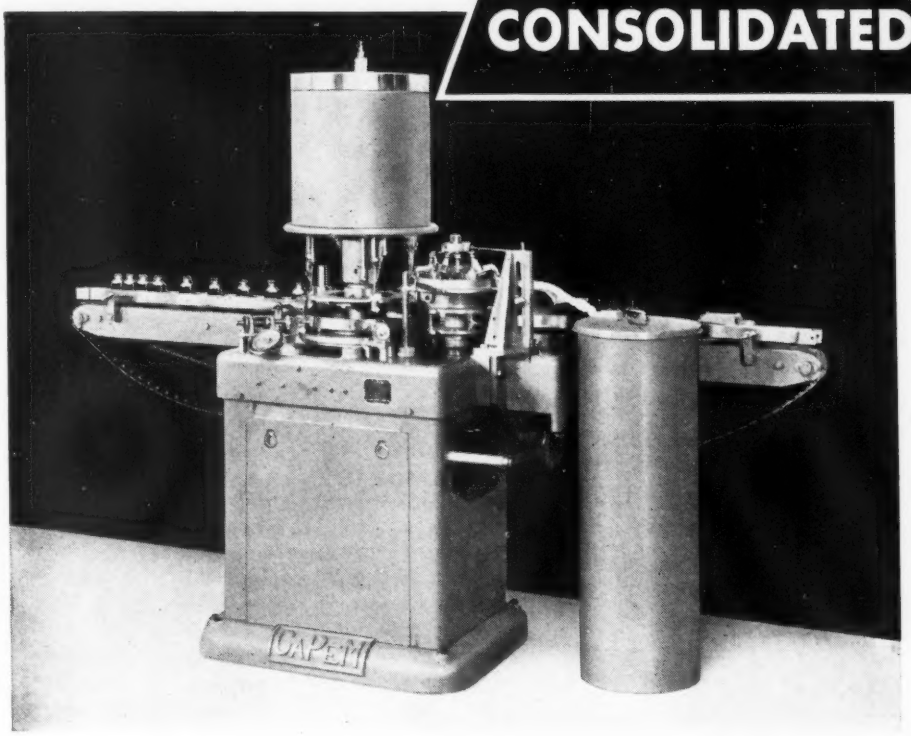

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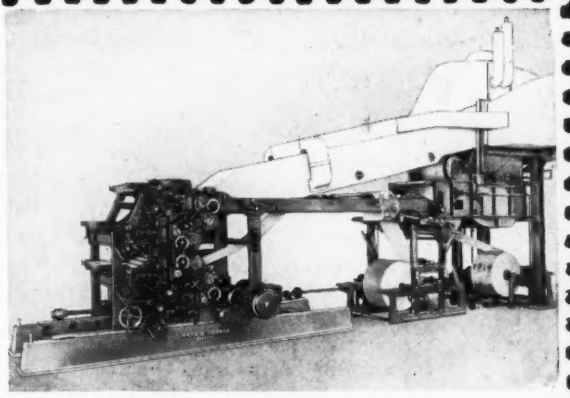

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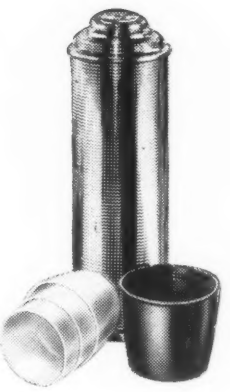

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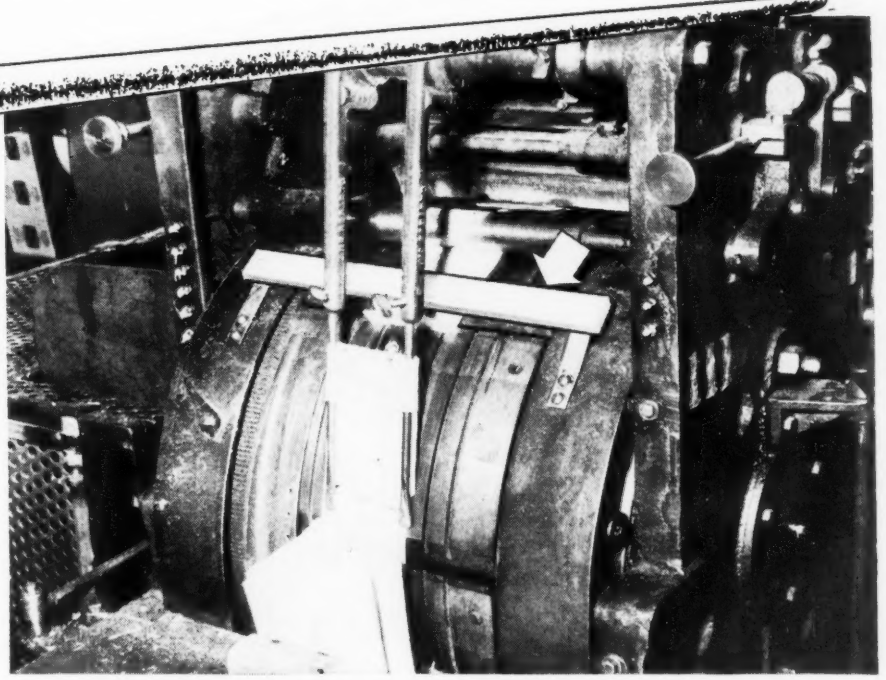

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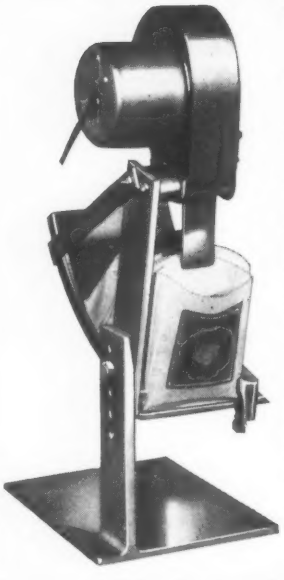

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Designed to handle bagged products with a minimum of effort at a maximum speed. Simple adjustment for height . . . tilting forward or backward enables the operator to set machine at easiest position. Stainless steel trough with capacity of 200 bags. Adjustable to bag sizes. Blower keeps bag clean and free from foreign matter.

ROCKFORD
Anderson
BROS. MFG. CO.
ILLINOIS

Write for Bulletin 11-29.

LABELS SEALS
WRAPS TAGS
LABELS SEALS
WRAPS TAGS
LABELS SEALS
WRAPS TAGS
LABELS SEALS
WRAPS TAGS

CAMEO
DIE AND LABEL COMPANY
Creative Designers-Printers
Quality Packagings for 24 Years
154 West 14th Street, New York 11, N. Y.
WAtkin 9-8484

Best industrial packs

(*Continued from page 135*) Mfg. Corp., Chicago, suction feeder pack.

Group 3—*Wirebound boxes:* First award, A. W. Lunstrum, Heating Research Corp., Anderson, Ind., box for Saf-Aire gas heater; second, J. W. McAloon, Studebaker Corp., South Bend, Ind., Studebaker short engine assembly box; third, J. M. McConnell, Central Scientific Co., Chicago, box for Cenco Pressovac pump.

Group 4—*General:* First award, Robert G. Anderson, Sperry Gyroscope Co., Great Neck, L. I., N. Y., for packaging of a wave guide in a chemically treated fibreboard box with wooden ends; second, Adrian B. Van Ripper, Congoleum-Nairn, Inc., Kearny, N. J., for packing of linoleum in a chemically treated fibreboard wood cleated box; third, A. H. Anderson, Perfex Corp., Milwaukee, for packing of radiators in a knock-down, steel-strapped, returnable crate.

Group 5—*Export:* First award, H. A. Hunt, Burroughs Adding Machine Co., Detroit, for packing of Bank Book Adding Machine; second, Wilburn Couch, GMC Truck & Coach Div., Pontiac, Mich., for packing of engine intake valves; third, Carl A. Johnson, Schlumberger Well Surveying Corp., Houston, Tex. for packaging of oil-well drilling equipment in a combination of materials.

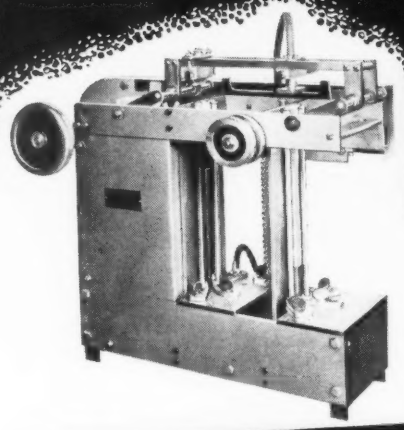
In addition to the above awards, a special trophy offered by Wm. H. McGee & Co., Inc., marine underwriters, presented for the export package judged to incorporate the most ingenious and effective method of preventing pilferage, went to the Schlumberger Well Surveying Corp. for the packing of oil-well drilling equipment.

The thoroughgoing manner in which industrial packaging and material handling were covered in the four-day short course program may be judged from the titles of the following typical subjects:

"The Relationship Between Packaging, Materials Handling, Transportation and Distribution," R. C. Sell, Traffic Manager, Koehring Co., Milwaukee; "Plant Layout From a Materials Handling Standpoint," Everett Laitale, Dept. of Mechanical Engineering, University of Illinois; "Automotive and Allied Industries Packaging," with John Saylor, Buick Motors Div., General Motors Corp., Flint, Mich., serving as chairman for a group of related talks; "Proof of Package Adequacy Through Tests," A. L. Ender, Package Engineering Service, Eastman Kodak Co., Rochester, N. Y., and H. A. Bergstrom, director of the Research Paper Div., Container Co., Van Wert, Ohio.

One of the talks which stirred great interest was that on "VPI Papers" by Dr. Aaron Wachter, Shell Development Co., Emeryville, Calif., in which Dr. Wachter outlined the properties and indicated applications of specially processed papers which inhibit the formation of rust on ferrous metal parts. The chemical which accomplishes this result, indentified as a "vapor phase inhibitor," is now being applied to kraft and other types

CODE-MARKS LABELS of *any shape* for *less* than 10¢ per M!



Now—with the CORLISS-CODER—you can imprint codes, expiration dates, contents, etc., on small rectangular and die-cut labels at anywhere from 50% to 700% less than your present cost! Users of this new label-coder report savings of 14¢ per thousand labels against other coding machines . . . 59¢ per thousand against hand-stamping.

The CORLISS-CODER is a fully automatic, bench-operated machine that handles labels from $^{9}/_{16}$″ x $^{3}/_{4}$″ to 4″ x $3^{1}/_{2}$″ . . . is quickly adjustable for various sizes and shapes. Requires only part-time attention of unskilled female operator . . . or one girl can operate three CORLISS-CODERS simultaneously. Accomodates full hour's capacity . . . delivers imprinted labels in single perfect stack. No skips . . . no smudged marks—makes fine, crisp impression on any part of *every* label.

If you code-mark labels—or intend to do so—get the facts on CORLISS-CODER now. Write for Data Sheet No. 11.0.

CORLISS-CODER

is used by companies like these for completely automatic bulk label-coding at lowest labor cost per thousand:

- CIBA
- HUDNUT
- LEDERLE
- PFIZER
- SCHIEFFELIN
- SQUIBB
- UNITED REXALL
- YARDLEY
- SANDOZ

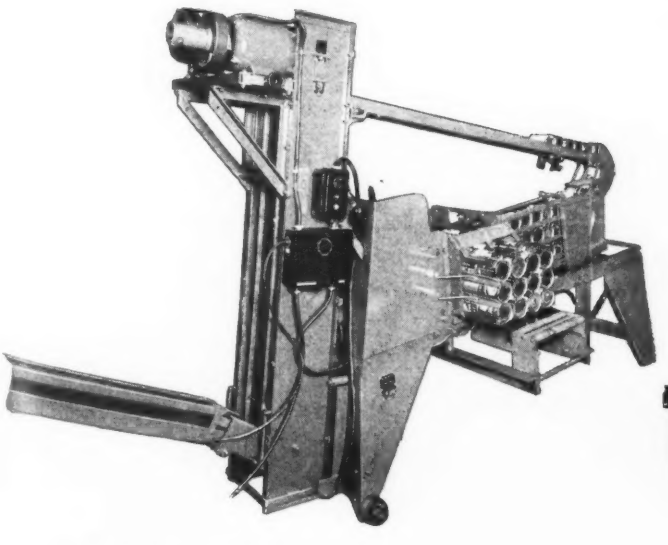
MARK-O-MATIC

ADOLPH GOTTSCHO, INC.

MACHINES TO MARK WHATEVER YOU MAKE

183 Duane Street New York 13, N. Y.

Casing For Cylindrical Tin Containers---Fast, At a Far Lower Cost



With CRCO-New Way Casers, anyone packing in cylindrical tin containers can speed up operations and lower warehouse costs. Sturdy, precision-built equipment that will perform its duties day in and day out through the season.

Several models are available, ranging from the plain Caser which delivers up to about ten cases a minute, to the fully automatic "one-shot" model which handles 20 or more cases per minute, depending on the ability of the operator.

Send for special Bulletin, illustrating the complete line of CRCO-New Way Casers, Labelers and Warehouse equipment.

THE BEST OF Everything IN LABELING AND CASING EQUIPMENT

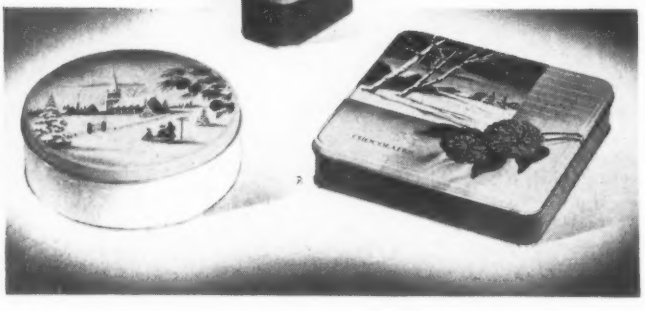
Chisholm-Ryder

COMPANY OF PENNSYLVANIA

HANOVER, PENNSYLVANIA

QUALITY CANS

QUALITY SERVICE

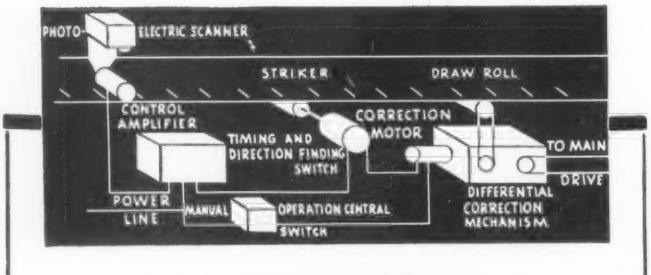


The primary service aim of Eastern Can Co. is to prevent the occurrence of packaging problems and complications which may cause our customers troublesome delays. To this end, Eastern performs a variety of research functions and certifies that all deliveries will be made promptly. Visit our sample show room before you purchase.

EASTERN CAN COMPANY, INC.

Keap Street, Wythe & Kent Avenue, Brooklyn 11, N. Y.

Phone: ULster 5-0100



Automatic "ELECTRIC EYE"

2-WAY REGISTRATION CONTROL

- All component parts needed for perfect registration control.
- Guaranteed faultless operation on YOUR equipment.
- Applicable to any machine using draw rolls to feed the web.
- Savings pay for equipment many times over because—it eliminates hand labor . . . permits faster machine operation . . . stops material waste.
- Set-up time radically reduced—because of auxiliary hand control switch.

Write for descriptive literature and Engineering Advice

MACHINE O'MATIC, INC.

2057 North Hoyne Ave. Chicago 47, Ill.

(Factory ASHLEY, OHIO)

of paper and is being placed on the market by at least one supplier.

Paul O. Vogt, General Electric Co., Schenectady, N. Y., president of IPEAA, announced that effective Jan. 1, 1949, the IPEAA would become known as the Society of Industrial Packaging and Materials Handling Engineers. Detroit was selected as the site of the 1949 annual meeting, the fourth staged by the group.

AMA Exposition plans

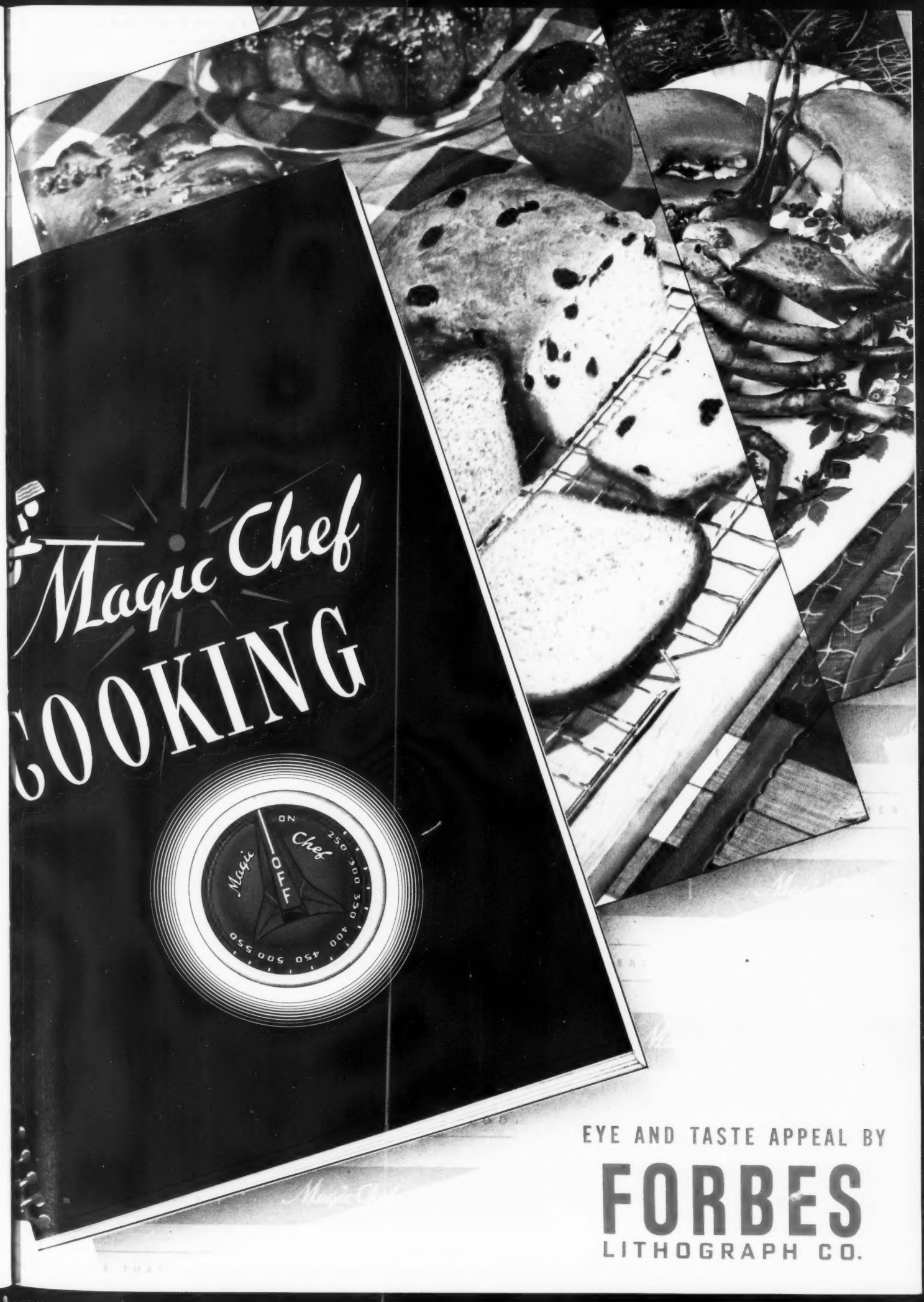
The American Management Assn. has announced preliminary plans for its 18th annual National Packaging Exposition, largest in the history of the event, which will be held May 10 to 13, 1949, in the Public Auditorium at Atlantic City. More than 200 exhibitors will utilize 110,000 sq. ft. to display developments in packaging, packing and shipping machinery, equipment, materials, design and services used in virtually every product in the nation's commerce.

The annual four-day AMA Conference on Packaging, Packing and Shipping will also be held in the Auditorium May 10 to 13, concurrent with the Exposition. More than a thousand packaging executives, engineers and technical experts will discuss the management aspects of materials, methods, procedures and merchandising.

According to Lawrence A. Appley, new AMA president, arrangements for the Packaging Exposition are being made by the Exposition Exhibitors Advisory Committee of which J. M. Cowan, manager for market development, The Dobeckmun Co., is the chairman. Members of the Committee are: A. B. Clunan, manager of direct packaging sales, Pliofilm department, The Goodyear Tire & Rubber Co., Inc.; N. A. Fowler, director of sales and research, General Box Co.; Robert D. Handley, advertising manager, Sylvania Div., American Viscose Corp.; D. S. Hopping, director of sales development, Celanese Plastics Corp.; Samuel Y. Hyde, sales promotion division, American Can Co.; M. P. Junkin, sales manager, National Metal Edge Box Co.; C. F. Manning, vice president, Reynolds Metals Co.; E. J. Marsh, secretary-treasurer, Marsh Stencil Co.

Paul Meelfeld, manager of advertising and sales promotion, The Hinde & Dauch Paper Co.; Tom Miller, vice president in charge of sales, Package Machinery Co.; K. M. Peterson, advertising manager, Pneumatic Scale Corp., Ltd.; L. L. Pilliod, sales manager, The Pilliod Cabinet Co.; Paul Thompson, advertising and sales promotion manager, Sherman Paper Products Corp.

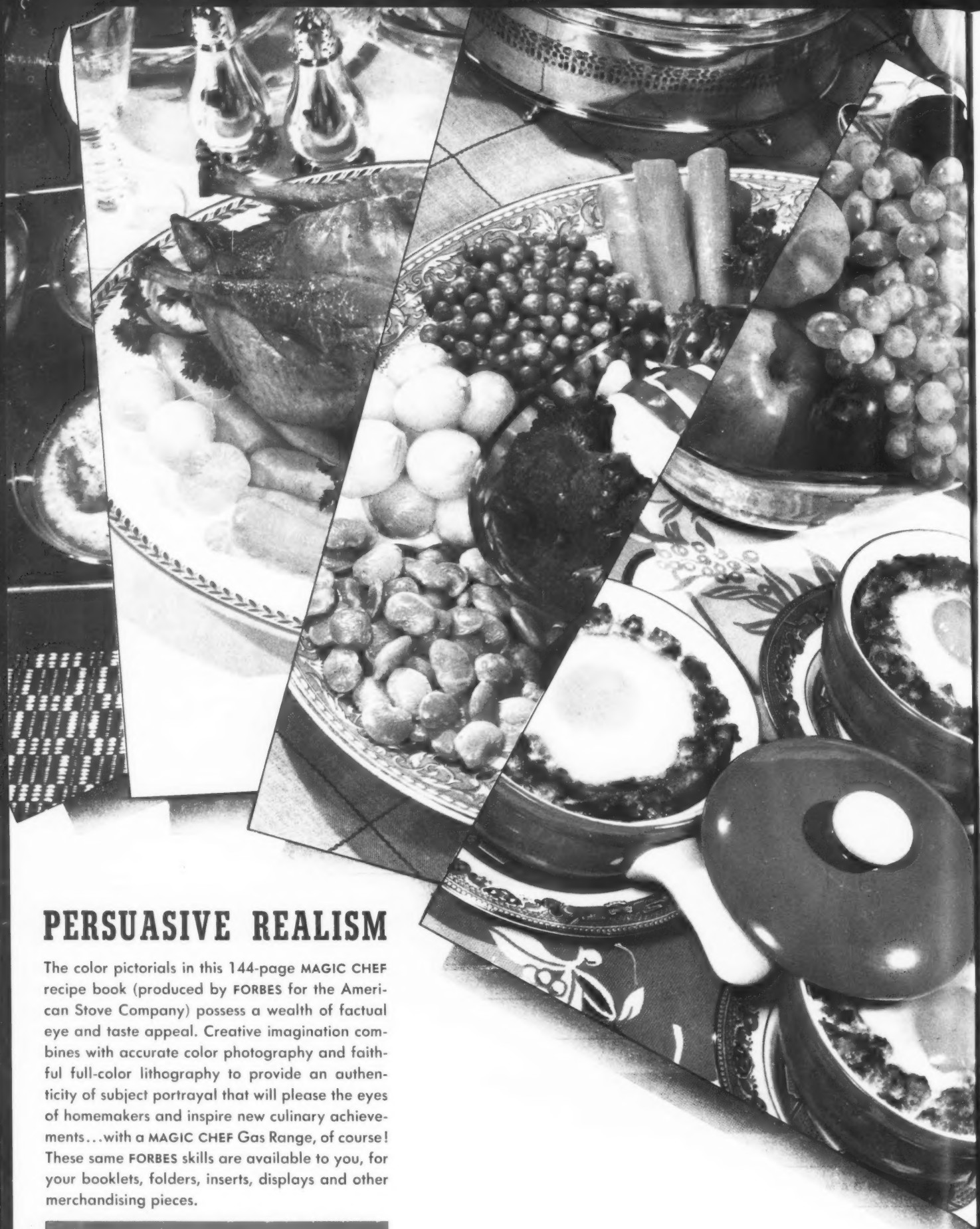
James Turnbull, general sales manager, Plastics Division, Monsanto Chemical Co.; Mills W. Waggoner, general manager, Better Packages, Inc.; Richard Wellbrock, vice president in charge of sales, New Jersey Machine Corp.; Ben M. Williams, manager of promotion, Gaylord Container Corp.



EYE AND TASTE APPEAL BY

FORBES

LITHOGRAPH CO.



PERSUASIVE REALISM

The color pictorials in this 144-page MAGIC CHEF recipe book (produced by FORBES for the American Stove Company) possess a wealth of factual eye and taste appeal. Creative imagination combines with accurate color photography and faithful full-color lithography to provide an authenticity of subject portrayal that will please the eyes of homemakers and inspire new culinary achievements...with a MAGIC CHEF Gas Range, of course! These same FORBES skills are available to you, for your booklets, folders, inserts, displays and other merchandising pieces.

FORBES
LITHOGRAPH CO.

P. O. Box 513 *Boston* 2

NEW YORK CLEVELAND CHICAGO ROCHESTER, N.

Paper pallets

(*Continued from page 131*) loading pier to the time they were unloaded from the ship at Los Angeles and taken by truck to be stored in the warehouse.

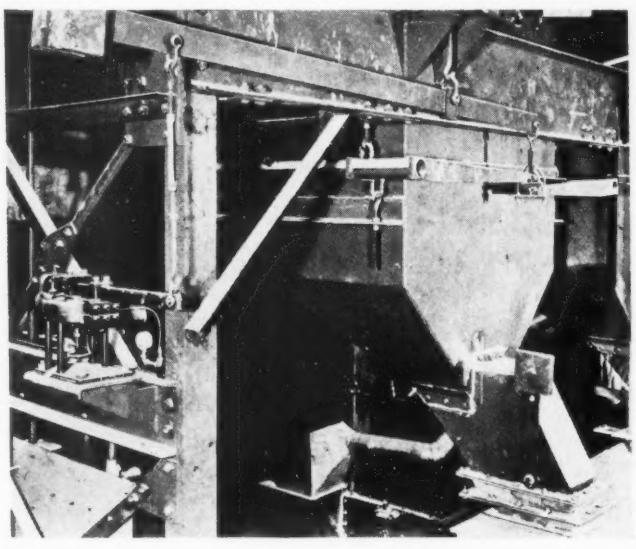
The company estimated that palletized goods were handled at the plant in one-fifth of the time required for the unpalletized goods. The steamship company, according to P. H. Gilbert of the Isthmian line, made a saving of 80% in the amount of man hours needed for truck unloading, storing and transfer of merchandise to shipside for loading. Another 50% saving in man hours was made in the shiploading operation. The same savings were made for unloading, storing and the transfer of the shipments on the West Coast.

In addition, Mr. Daly pointed out, the company saved approximately 20% in direct charges for the transportation of the palletized merchandise. "The expendable pallet," he says, "opens up a new era in cost reduction. Now instead of getting goods to market 'bucket-brigade style,' mass-mechanized handling can do the job faster, safer and cheaper."

CREDITS: *Pallets, International Paper Co., New York, and Chuckaway Co., Boston, Mass.*

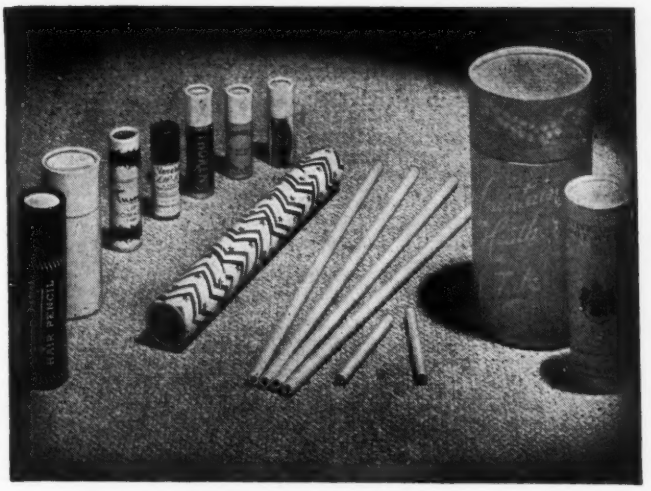
Accurate batch weighing

A new air-operated weighing device incorporated in the batch-weighing system of the packaging line at Calgon, Inc., Pittsburgh chemical plant, has proved to



be accurate and easily maintained, the company reports.

At Calgon accurately measured quantities of vitreous sodium phosphate must be mixed with other ingredients. The phosphate material must be weighed before it is dumped into the batch mixer. In the system now being used the phosphate is brought by continous belt conveyor to a conventional scale-type suspension hopper with a canvas connection at the bottom. The hopper is supported by a double-yoke arrangement



Attractive Packaging • Attractive Sales with

TUBULAR PAPER PACKAGES

Proper packaging will help make for larger sales of your product. Our eye-appealing Tubular Paper Packages are sturdy, light-weight and can be attractively decorated with your own design or in a wide range of colors.

Diameters: 1/16" to 6"—in any lengths.

WE CAN SOLVE ANY TUBULAR PACKAGING PROBLEM

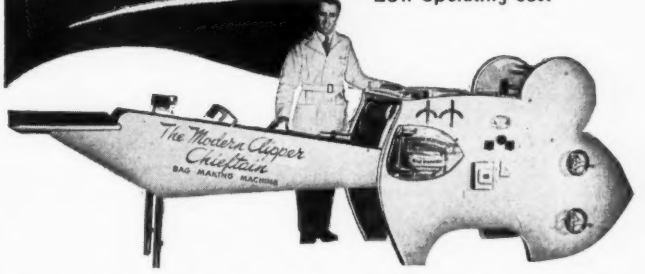
DIAMOND STRAW & MACHINE CORPORATION

32-36 WEST 18th STREET — DIAMOND — NEWYORK 11 N. Y.

MAKE BAGS FAST

Up to 10,000 Per Hour

- Fast changover time
- For small and large quantities
- Low operating cost



The "Chieftain"—new Modern Clipper machine represents a brand-new design in bag-making machines. It makes flat and square bags of all heat-sealing materials; cellophane, Pliofilm, foil and plastics—with a speed and efficiency never before equalled. No skilled operator is needed. Easy to operate, precise and economical. Has center seam gluing and duplex bag making attachments.

HEAT SEALS

Because a proper heat-seal keeps out and keeps in all atmosphere, it gives you *certain* sift-proofing and leak-proofing. There is no seal that can compare with a heat-seal for protection . . . no machine that can rival the "Chieftain" for versatility and high-speed operation.

MODERN CONTAINERS CO.

3220 E. Olympic Blvd. Los Angeles 23, Calif.

linked to a long counter-weighed lever and this in turn is linked to the integral beam of the new weighing device. The device measures the full weight of the phosphate material in the hopper. It is connected with a mercury manometer with an adjustable contact which trips at a pre-set weight point, stopping the conveyor. Air pressure actuating the mercury column of the manometer is supplied by the device. It consists of a flexible diaphragm as one face of an air-tight chamber. Compressed air is admitted through a pilot valve. The integral beam transmitting the hopper weight tends to depress the diaphragm. To balance the increased force, the valve opens to admit more air. Conversely, as the external force decreases, the compressed air is exhausted from the chamber until external force and internal air pressure are equal and the measuring diaphragm is restored to a null position. Thus the pressure generated within the chamber provides a direct measure of the externally applied force and it is this air pressure that actuates the mercury column.

CREDIT: *Weighing device "ThrusTorq" Hagar Corp., Pittsburgh.*

Strap-handle bag

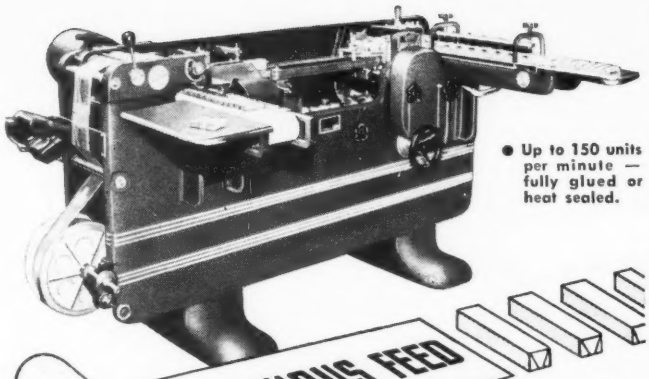
(*Continued from page 123*) or six bottles equally well, since the handles tend to bind the bottles in position without bending or distorting the shape of the paper containers. Also a single-handle variation of the bottle bag pre-packages two 24-oz., 28-oz. or 32-oz. bottles.

An adaptation of the strap has been made for cake and pastry boxes which are being used by the Inglis Bakery in Portland. A strap loop encircles a tapered confectionery box in flat position. The box itself is specially constructed so that the top swings away with one of the sides, leaving the entire back of the box open so that cakes may be placed in the box and removed without danger of crushing or damage to the frosting. It is reported that this type of a box also allows for a saving of 2 in. of paperboard in its manufacture.

While it is believed that the greatest possibilities for use of the paper handle will always be in a carry-home type package, the strap has potential applications in many ways. It may, for instance, be used to package paper and other products easily damaged by metal strapping or it may be used to cushion metal strapping where metal must be used for strength.

CREDITS: *Straps and bags manufactured by Package Containers, Inc., Portland, Ore., and Camp-Betner Corp., Richmond, Va. Worldwide patents owned by Paper Strap, Inc., Portland. Licensing rights for other than British Empire countries held by American Paper Strap Co., Portland; for the British Empire, by Northern Paper Strap Co., Vancouver, B. C.*

ADDENDUM: The color photography for the Sucaris packages designed by Emmy Zweybruck which appeared on our October cover was the work of Francis G. Mayer, New York. We regret the omission of this credit with the explanation of the cover design on p. 101 of the October issue.



• Up to 150 units per minute — fully glued or heat sealed.

CONTINUOUS FEED

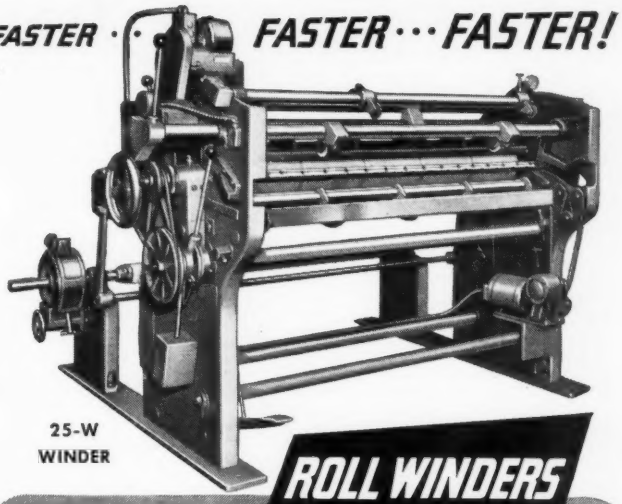
HIGH SPEED PACKAGING

INCREASE wrapping production with savings in time, money, labor and materials. Wraps products of all shapes with materials of all types — without stiffeners and without breakage — even to fragile products! Only one operator and one helper required. Also available with hopper feed for wrapping stick candy and similar cylindrical products. *Write for illustrated brochure and complete details.*

Campbell WRAPPER

HUDSON-SHARP MACHINE CO • GREEN BAY • WIS

FASTER · · · FASTER · · · FASTER!



25-W WINDER

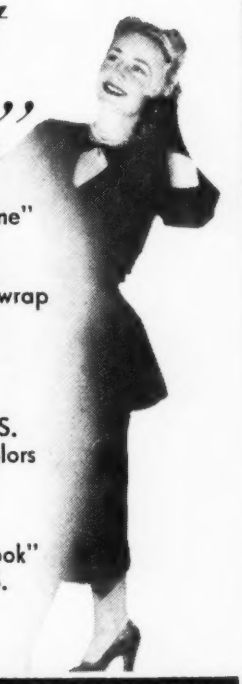
ROLL WINDERS

A new, high speed slitter and rewinder for converters of locker paper, shelving paper, household wax rolls, and paper and cellophane gift wraps. Produces perfect rolls with increased production and lower maintenance costs. Write for complete information.

HUDSON-SHARP MACHINE CO • GREEN BAY • WIS

Printed from MOSSTYPE RUBBER PLATES by PACKAGE PRODUCTS CO. Charlotte, N. C.

MOSSTYPES *help Lily get the "new look"*



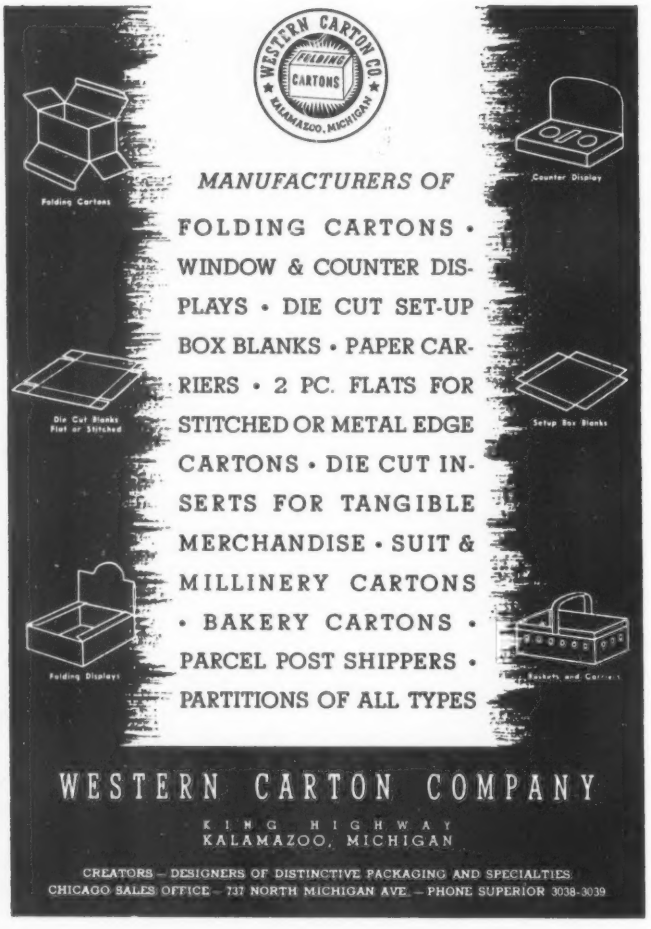
Cotton weaving yarn may be a "plain-Jane" sort of product . . . but a sparkling package can make it a sales-appealing glamour item. This stand-out cellophane wrap for Lily Mills is a case in point. It has a clean, functional, eye-catching design . . . further enhanced by faithful reproduction from *pre-madeready* MOSSTYPE RUBBER PRINTING PLATES. No wonder its bright yellow and blue colors register so closely . . . its fine detail and reverse areas come up so sharply.

Your printing, too, can have this "new-look" quality when you print with MOSSTYPES. Try them on that next job.

MOSSTYPE CORPORATION
33 Flatbush Avenue
Brooklyn 17, New York

pre-madeready MOLDED RUBBER PLATES • DESIGN ROLLERS

Rely on MOSSTYPE for all three . . .
- Black-and-White Art
- Pattern Engravings
- Precision Plate-Molding



The moment you install the OXY NEUTRALIZER BAR, you entirely eliminate all static problems from paper, acetate and cellophane. Production is smoother . . . more efficient by far. On job after job, when other devices for eliminating static have failed, the OXY NEUTRALIZER BAR has proven successful.

The OXY NEUTRALIZER BAR is fully guaranteed . . . designed for use on all machines . . . will pay for itself in a few short months.

Write for full information giving specifications.

HERBERT Products Inc.

74-32 JAMAICA AVENUE, WOODHAVEN, N. Y.

Decision for Armour appealed

The packaging field must wait a little longer for a final decision in the legal contest of Campbell Soup Co. and the Carnation Co. against Armour & Co. The two plaintiffs had sued for an injunction and accounting on the grounds that the new Armour red-and-white labels (see MODERN PACKAGING, Aug., 1945, p. 91) represented unfair competition and trademark infringement. The suit was dismissed after a hearing by the Federal District Court in Philadelphia. Now the plaintiffs have filed an appeal to the Federal Circuit Court of Appeals and it appears likely that the issue will be fought through to the U. S. Supreme Court.

Basis of the suit is the plaintiffs' claim that they hold, jointly, the exclusive right to use of a label consisting of white and red bands. The District Court decided, however, that mere color cannot be appropriated as a valid trademark without at the same time identifying it with a symbol such as the user's name.

The suit has been followed with great interest not only because it involves a basic question of package design, but because it is the first major action since the passage of the Lanham Act, which permits registration of the package itself as a trademark.

District Judge J. Cullen Ganey found little to support the complaint. A 1934 agreement between Campbell and Carnation to share a red-and-white color scheme and use it on different specific food products without protest, apparently hindered rather than helped their case. Judge Ganey held such an agreement to be not in the public interest and declared it destroyed any trademark right in the colors that either might have held at the time of the agreement.

The Court pointed out that red-and-white-banded labels have been used in the food industry by concerns other than those involved—including Armour & Co.—for various periods of time up to 40 years. The inference is strong, he said, that the public looks to name as the badge of origin rather than color.

"The Armour Star badge," said Judge Ganey, "is the basic theme of Armour advertising. The accused labels were designed, adopted and used in good faith. No intelligent purchaser would be confused."

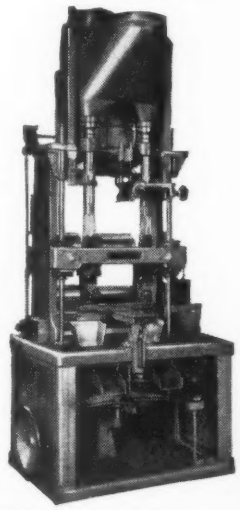
S-Polymer films

(*Continued from page 156*) appears, therefore, that the ideal packaging materials for dried fruits would be one which would restrict the oxygen supply very nearly completely and prevent the transpiration of moisture and SO_2 from the package. In order to determine the applicability of S-Polymers for preserving dried fruit packaging, a series of packaging experiments was, therefore, conducted. One-half-pound packages of raisins, prunes and mixed dried fruits were made up and stored under ordinary atmospheric conditions. The packaging materials used were calendered 2-mil film of

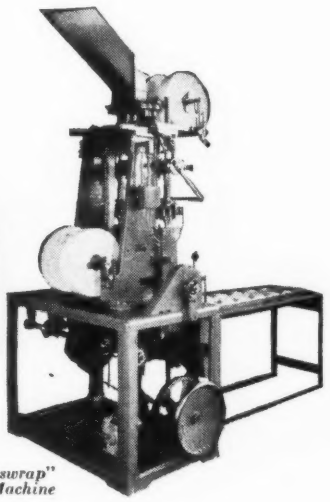
STOKESWRAP

PACKAGING MACHINES

for powders • granules •
salted nuts • small candies
crackers • individual pieces
and frozen foods



Model BS "Stokeswrap" Packaging Machine



Model AS "Stokeswrap" Packaging Machine

The "Stokeswrap" Packaging Machine feeds the film (printed or unprinted) from the roll, automatically forms the package, fills with the desired amount of the product, and heat seals. Production—50 to 100 per minute. Various types of feeding devices are used to suit the product to be packaged.

We will gladly send complete details. Also, we will furnish sample "Stokeswrap" packages if you will send us a small quantity of your product.

We also make a complete line of
FILLING—PACKAGING—WRAPPING MACHINES

STOKES & SMITH Co
PAPER BOX MACHINERY PACKAGING MACHINERY
A wholly owned subsidiary of Food Machinery and Chemical Corporation.
FRANKFORD, PHILADELPHIA 24, U.S.A.

Mack MOLDS FOR THE LEADERS—

PART MOLDED BY MACK FOR A SIMMONS BED, PRODUCT OF THE SIMMONS COMPANY, PROMINENT PRODUCER OF MATTRESSES AND BEDSTEADS

Write on your company letterhead for your copy of the 12-page Booklet G describing the complete Mack facilities—no obligation.

Insure your plastic molding jobs with MACK experience!

DESIGN

MOLD MAKING

MOLDING

Letting MACK figure it in plastics is good business, anytime. At MACK you receive the full benefit of experience that goes back to the early days of the plastics industry. If, on examination of your problem, we feel that the use of plastics is not the proper method, our engineers will so advise you. MACK means sound planning from choice of material and mold design to finishing. That's why a finished job from MACK will pay its way—every time!

THREE PLANTS
WAYNE, NEW JERSEY
ARLINGTON, VERMONT
WATERLOO, P.Q., CANADA

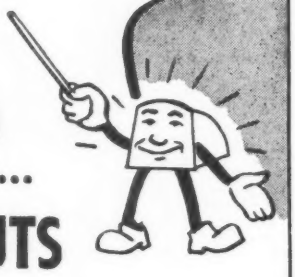
Mack MOLDED EXCELLENCE

IMPROVE YOUR PACKAGES

of Free-Flowing Granular Products

Use ALUMINUM POURING SPOUTS...

*SEAL-SPOUTS



SEAL-SPOUTS increase market preference because housewives want packages that are . . .

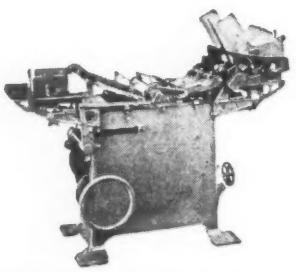
- Easier to open
- Easier to use
- Easier to close

Our new four page folder will give you complete details about SEAL-SPOUTS — why they gain consumer acceptance — how they are quickly and automatically added to packages in the production line.

Send for this informative folder

*TM Reg. U.S. Pat. Off. 1805

SEAL-SPOUT CORPORATION
363 Jelliff Ave., Newark 8, N. J.



the MULTIPRESS

FOR
Folding Cartons
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S-50 Polymer and 2-mil moistureproof cellophane. The packages were checked for weight retention, appearance and edibility over a period of 21 weeks. At the conclusion of the tests, those fruits packaged in S-50 retained their original freshness, appearance, taste and approximately 98% of their original weight. Those packaged in cellophane became progressively harder and more discolored as the test progressed and after 21 weeks had lost from 15 to 17% of their weight. Graphical results of the tests are shown in Fig. 11. The brief study serves to indicate that in the field of dried fruit packaging the S-Polymer films may prove to be quite useful.

Summary and conclusions

The results of this study indicate that the S-Polymers may be ideal for packaging fresh and dried fruits which require retention of moisture content or controlled gas transmission for prolonged storage.

Packages made up of S-50 film prolonged the storage life of the fruit, retaining a high percentage of original weight with very little if any deleterious effect on the appearance, food value or edibility. Such tests extended over several months' duration.

Some system of ventilation or modification of the S-50 Polymer is necessary in order to establish the proper balance between respiration and transpiration of fresh fruit.

This is dictated by the fact that the S-Polymer films are so resistant to the penetration of gases and moisture that they will not permit the normal life-sustaining processes of fresh fruit to take place. Experiments indicated that mechanical ventilation of the package, if judiciously employed, is quite adequate. Other investigations indicate that modification of the resin through compounding may serve the same purpose.

The work points the way to other packaging applications for these polymers, including dry chemicals, tobacco, frozen foods, etc. The advantages to be realized by the processors, marketers and consumers include attractive appearance, prolonged storage life, minimum waste and improved edibility—which all add up to increased economy, efficiency and more wholesome living.

Acknowledgment

The advice, encouragement and assistance of W. J. Sparks, L. B. Turner, W. H. Smyers and the laboratory staff of the Chemical Division, Standard Oil Development Co., during the course of the work and the preparation of the paper are greatly appreciated by the authors.

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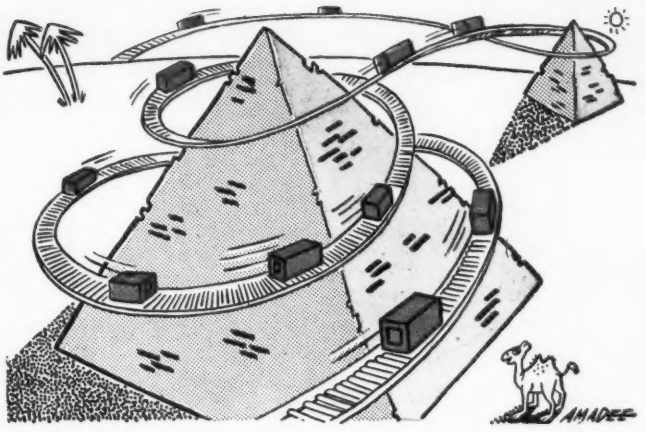

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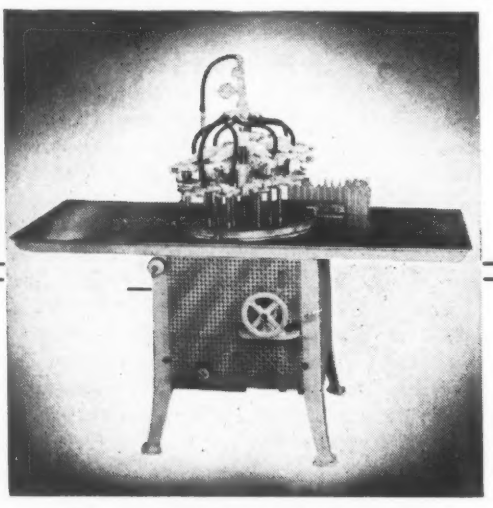

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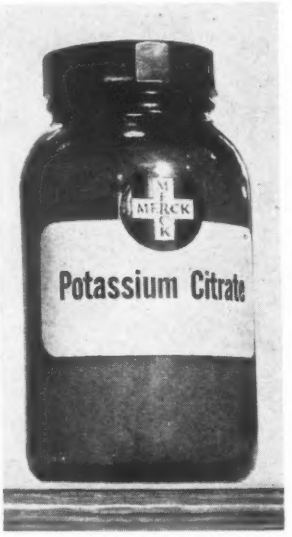

There are two labels on each bottle. The display label bears the English name of the chemical in large letters. The "working" label contains the professional designation and weight of the chemical, directions for handling and other information needed by the pharmacist.

Labels can't be marred or scratched in ordinary use and soilage can be removed easily with a damp cloth. The shape of the bottle provides easy handling for the pharmacist.

The bottles come in 250 and 750 cc. capacities and are supplied in four sets, each containing 25 of the 250 cc. bottles and four sets containing 12 each of 750 cc. bottles. Only the chemicals used most frequently in prescriptions have been included.

Merck representatives call on druggists with a portfolio presentation that highlights the need for the sets. Lithographed reproductions enable druggists to see how the sets will look on their shelves. A leather-covered, satin-lined jewel box is used by the salesman for carrying a sample bottle.

CREDIT: *Bottle, Owens-Illinois Glass Co., Toledo, Ohio.*

Refrigerated cellophane

By refrigerating the cellophane wrappings used for pre-packaging self-service meats, a supermarket operator in Denver claims to have partially solved the meat discoloration problem and improved wrapping procedures.

The self-service meat department of Miller's Groceteria in Denver, which has used five open cases since June to give a 60% increase in sales, had been troubled by frequent discoloration of red meats when in contact with the transparent wrapping, according to George Berman, manager.

Mr. Berman first learned that it was necessary to use two types of cellophane for wrapping: LSAT for luncheon meats, white meats and drier varieties, and MSAT for juice red meats or wet meats of any kind. Checking

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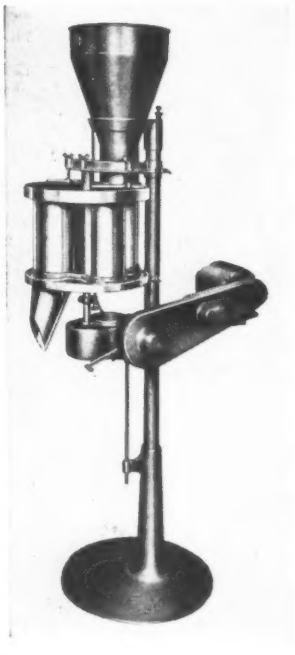

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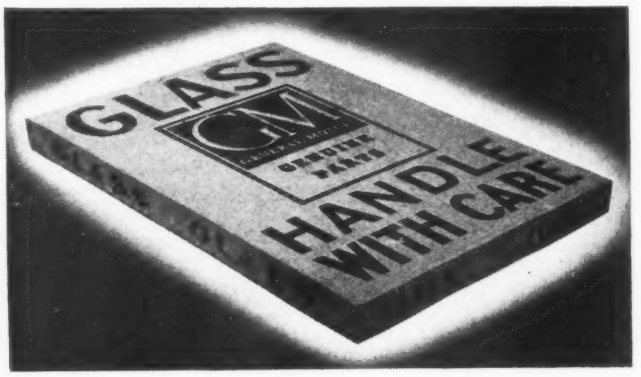
materials with the packaging material manufacturer, Mr. Berman found that the red meat cellophane had a considerable moisture content, likely to dry out and cause stickiness. Immediately he hit upon the idea of refrigerating the wrapping material, cut into sheets, in the walk-in refrigerator in which pre-cut meats are kept.

Now all of the MSAT paper is kept at 25 deg. and brought out only when the schedule calls for steaks, roasts, chops and other cuts to be packaged. Mr. Berman claims that, properly chilled, the wrapping material does not stick to other sheets, retains its moisture content and does not cause discoloration for long periods on display in the cases.

Protecting safety glass

New shipping cartons for Chevrolet windshield and window safety glass are lettered on the outside so that they fairly shriek a warning to "handle with care" and



are designed on the inside to give better protection, through the use of a separate, two-piece liner section.

The corrugated-paper cartons have been developed by the Chevrolet Motor Div. of General Motors Corp. for shipment of laminated plate safety glass from the Libby-Owens-Ford Glass Co., the manufacturer of the glass, to Chevrolet warehouses and again, in the same cartons, to Chevrolet dealers.

Externally the new carton is overprinted with a linenized buff-colored background. The lettering is in as bright a red and blue as is possible on the kraft paper. On each large side panel appears the lettering, in large, bold, red print, "Glass—Handle with Care." In the center of the panel is the emblem in blue, with the words, "GM—Genuine Parts." On each of the four narrow panels the word "glass" appears in red.

The inside of the carton has been changed to give better cushioning for the glass. A split inner liner, much like an envelope, fits inside the outer carton, which opens at the narrow end to receive it. The liner sections are wide at the outer side, to fit snugly into the outer carton and taper together along the inner side.

After the liner sections are pre-formed and stapled, the glass is inserted into one of the liner sections and the other section is then slipped over the other half of

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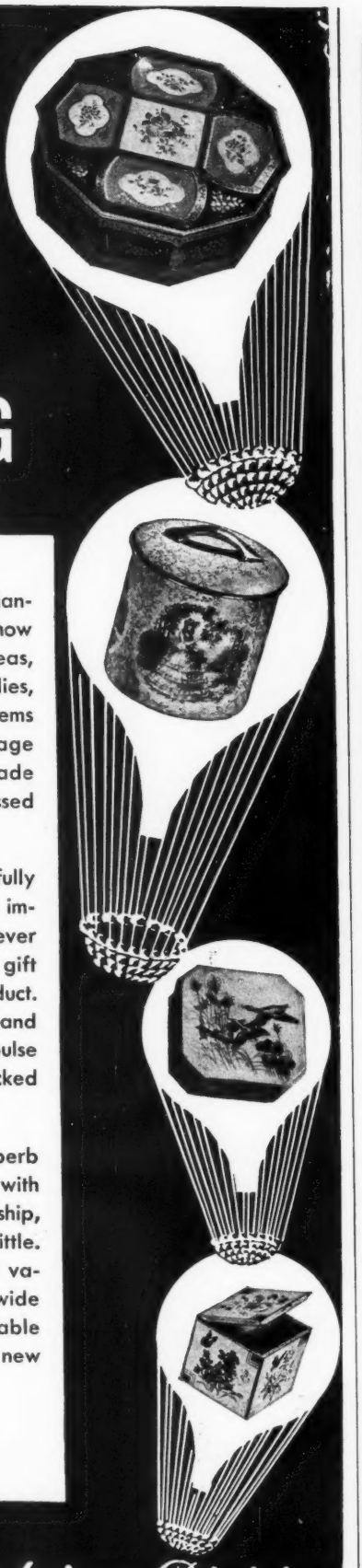

Like other smart merchandisers, you'll discover how really high your sales of teas, fruit cakes, stationery, candies, nuts, and other specialty items can climb when you package them in these English-made lithographed and embossed metal containers.

Skillfully made and colorfully decorated, they attract immediate attention wherever displayed and make a gift package of your product. Their outstanding beauty and re-use value stimulate impulse sales of merchandise packed in them.

Even though these superb containers are made with traditional fine craftsmanship, they cost surprisingly little. Twenty-eight designs and various sizes provide a wide range of containers, each able to send your sales to new heights.

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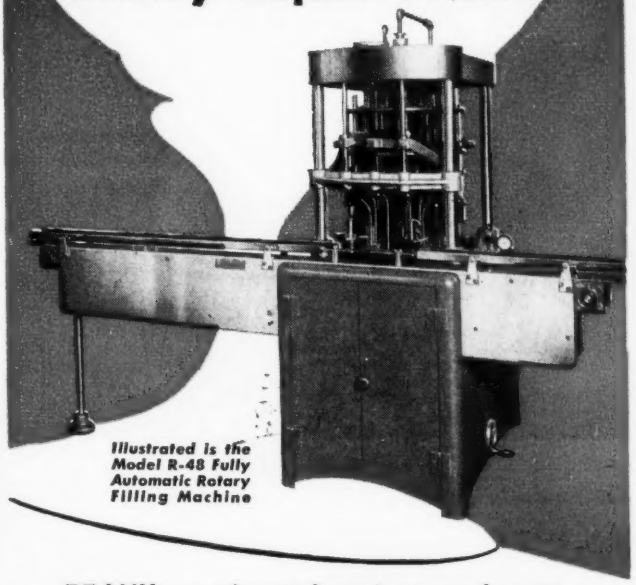

Illustrated is the Model R-48 Fully Automatic Rotary Filling Machine

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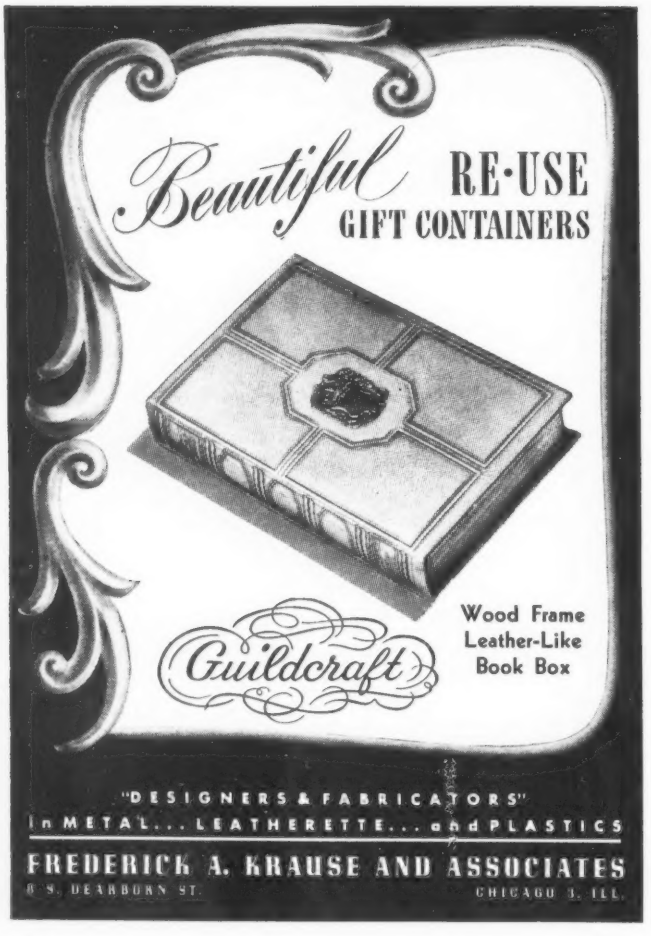

the glass. Glass and liner are placed into the outer carton which is stapled by machine.

Thus the glass is protected on all sides and edges by two layers of corrugated paper and on the large panels there is a considerable air space for added cushioning.

The cartons come in seven different sizes to accommodate the 125 different sizes and shapes of flat plate safety glass. Cartons all are $1^1/_2$ in. thick and range from 14 to 19 in. in width and 23 to 48 in. in length.

The new carton was developed through the coordinated efforts and research of the Chevrolet Central Office Parts and Accessories Department, under I. W. Thompson, manager; the National Parts Distribution Department, in Flint, under I. W. Johnson, manager; and the various sources of supply. Working directly on the project were K. M. Mapes, packaging manager, and D. S. Millman, director of the packaging research section.

New flour-bag fashions

Two new re-use ideas have been developed for printed cotton flour and feed bags, long valued by housewives for fashioning items for their homes and wearing apparel.

One is a colorful sports shirt for bowling teams; the other, a merchandising kit, making its entry into the national retail grocers market via the commercial bakers routemen.

The Taystee Bread Co., through its Beaumont, Tex., plant, is one of the first large commercial bakers to introduce the merchandising kit. It consists of a large printed cellophane envelope containing four used flour bags. All printed patterns on the bag fabrics are selected on the basis of a survey of 2,000 women. The kit contains $4^2/_3$ yds. of material. A small envelope enclosed in the larger one contains a spool of thread and eight buttons. A pattern book completes the package. The National Cotton Council and the Textile Bag Mfrs. Assn. are cooperating in promoting the kit through retail outlets.

The new sports-shirt fashion was originated by bowling teams sponsored by bakers whose flour comes in printed cotton bags. Now a variety of bag patterns appears on the back of other sports participants.

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OUTSTANDING VALUES: Pneumatic Scale Co. Automatic Cartoning Unit Consisting of Automatic Carton Feeder, Bottom Sealer, Rotary Filling Machine, Top Sealer and Interconnecting Conveyors. Standard Knapp #429, Ferguson Packomatic Carton Sealing Machines. World Straightline Bottle Labeling Machine, labels front and back. New Jersey Labelrite Semi-Automatic Labeling Machine. Knapp #10 Adj. Can and Bottle Labeler. Stokes & Smith Model G-1 Automatic Duplex Powder filling Machines. Bagby Twin Piston Filling Machines. Horix SS and Karl Kiefer Rotary Visco Filling Machine. Package Machinery Model-FA and FA2 Wrappers. We have everything in packaging and filling equipment. Write or wire collect for prices and details.

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SET-UP paper boxes—Production Manager available—15 years' experience—desires connection with reputable manufacturer of machine and hand-made set-up boxes. Capable assuming full responsibility. Proven ability estimating, purchasing, designing, supervision and efficient production. Fancy boxes made of cardboard, acetate and wood. For diversified trades—candy, jewelry, perfume, cosmetic, cutlery, etc. Highest references. Will locate anywhere. Box 767, Modern Packaging.

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WANTED: An Automatic Cartoning unit that will make up a folded carton approximately 3⅜ inches by 1⅛ inches by 6 inches in height. State make of machine, price and where located for inspection. Box 752, Modern Packaging.

SALES PROMOTION manager. Opportunity for Sales Promotion Manager. Applicants are invited for a position of Sales Promotion Manager with an established background of sound management and creative ability to take charge of all Company promotions. Experience should include work in National Consumer Package field with ability to absorb and handle production problems. Preference given to applicants with good experience in all phases of creative advertising. Preference given to applicants from 35 to 40 years of age. Must locate in Toronto. Please send detailed resume in confidence to Box 764, Modern Packaging.

SALES EXECUTIVE Available: Cellophane and Paper Specialties. At present employed by a leading converter but interested in making a progressive change, same or allied fields. Thoroughly capable of selling and directing sales of converted Cellophane, Glassine and other papers and films, printed or plain. Production background. Can take complete charge. Free to locate anywhere. Write Box 758, Modern Packaging.

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Ay tank ve yust call you RIPCO* MAID

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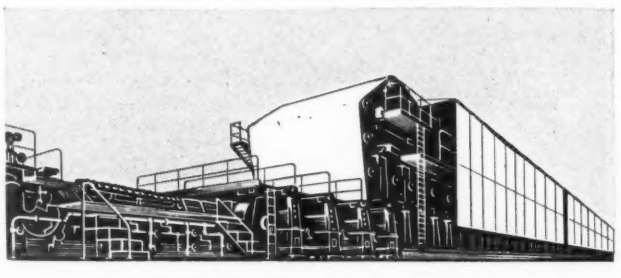
"THE BIG SWEDE" has been famous since 1941 both for his catchy name and for being the biggest glassine paper-making machine in the world. He had best look to his laurels.

A TWIN SISTER machine, after many months of building, was recently brought into being. On August 26th, after a few hours of warming up and trial (and with us all holding our breath), she began to purr like a kitten and to turn out some of the sweetest paper we've ever seen. She's been doing so ever since.



WE WANTED A NAME for this new machine—as fitting as that of her brother, "The Big Swede." So we conducted a contest. We knew many of our friends would join the fun, but we were quite unprepared for the overwhelming response—the flood of warm-hearted well wishing we received from the paper using trades and public alike. We thank you all for helping us, and we hope you like the name the contest produced for the new girl. RIPCO MAID heads up a vast expansion program which makes our capacity for tonnage, service, and quality unequalled.

A contest report will be sent to all who participated and to anybody else who writes for a copy.

IN THE LAND O' LAKES • MILLS AT RHINELANDER, WISCONSIN

MODERN PACKAGING ADVERTISERS

NOVEMBER 1948

(Please turn to page 218)

TOUGH PROBLEM SOLVED

The manufacturer of this wire dish drainer needed a coating that would provide his product with these characteristics: beauty, durability and protection against chipping or scratching dishes. Watson-Standard supplied the answer.

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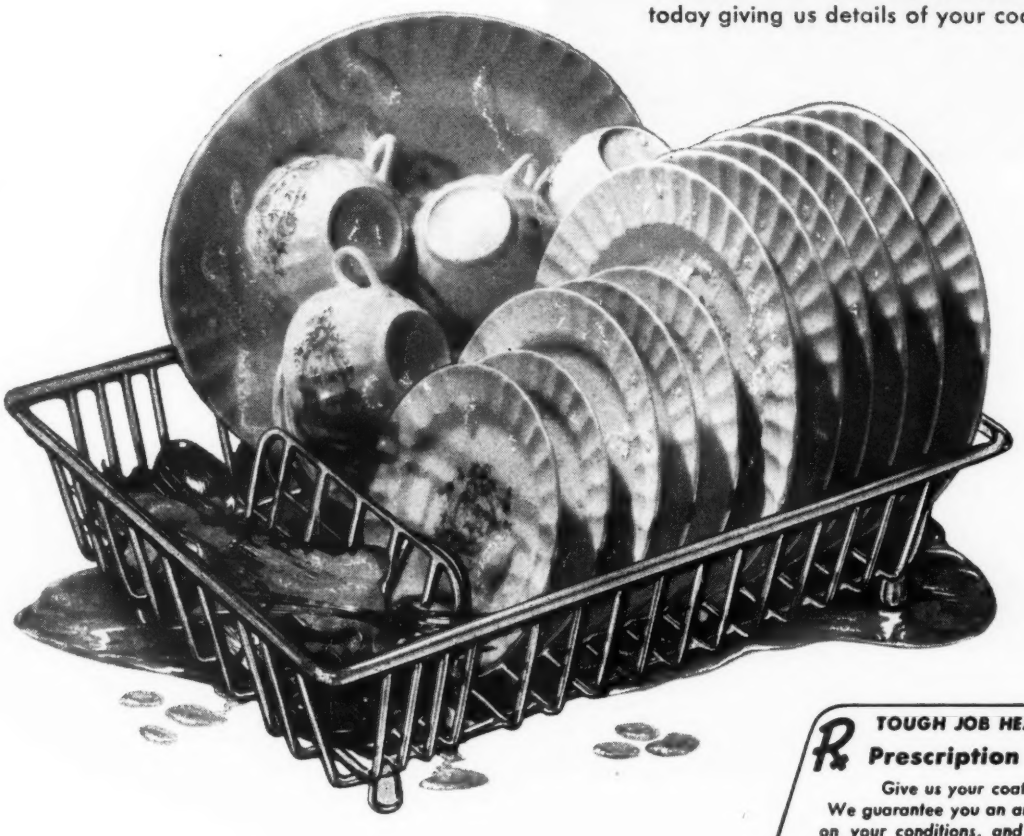

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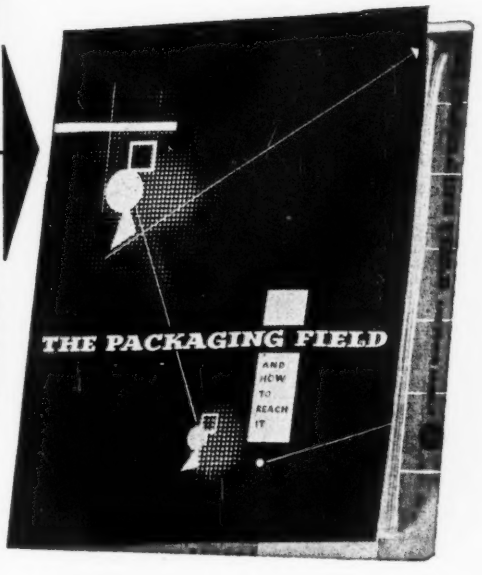

PACKAGING IS BIG BUSINESS

The Department of Commerce in June, 1947, rated the design, testing, production, shipping and merchandising of packages as a five billion dollar business. Considered as a separate industry, packaging rates as one of the largest in the country — larger than steel and machinery, larger than the automobile industry at its 1939 level. And its volume is increasing as more products find their way into packages and more labor-saving packaging machinery goes on the production line.

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